

FlexFilter EX

A state of the art filter system to meet your current and future needs



Keeping the work environment clean and safe minimizes the risk of explosion, maximizes your production up-time, increases your products' quality and gives significant cost savings.

FlexFilter EX is the third generation high vacuum dust collectors for potentially combustible dusts. The unit complies with the ATEX directive.

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 explosive dusts.

FlexFilter EX has been created in order to meet various extraction requirements and to meet the challenges and rapid changes presented to modern industry. All FlexFilter EX are marked with the EX symbol and are category 3D equipment according to directive 94/9/EC. This means that models with the EX symbol may be placed in areas classified as zone 22 according to directive 1999/92/EC.

NOTE!

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

IMPORTANT NOTICE!

The HV Starter for these EX units must be quoted on project basis, i.e. the standard HV starter is not sufficient for the control of the new FlexFilter EX. Please submit your enquiry to technicalsupport@nederman.se as usual for special products.

Explosive Dust

A solid piece of any given material is normally safe and non explosive. 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 "explosive" they become!

Many industries handle materials that are or can become explosive! When a combustible material is dispersed as a fine dust and combined with air and an ignition source the potential for a dust explosion increases.

Protect Your Staff and Increase Efficiency

One of the hazards with explosive dust is that it settles on all surfaces within the facility. The settled dust once disturbed into the air as a result of an initial explosion, becomes the fuel for secondary explosions. An effective solution is to prevent dust from spreading around the workplace by capturing the dust at the source where it is generated, preventing it from spreading into the facility. A clean work environment, besides from minimizing the risk of explosion, is efficient one, maximizes your production time, increases the quality of your products and provides significant cost savings.

Some examples of combustible materials:

- Synthetic organic dust, such as plastic grinding dust, reinforced plastics and other composite materials, powder paint, cosmetics.
- Metal dusts – Fine dust of aluminium, magnesium, titanium, chromium.
- Organic dust from food industry, such as baking flour, soup powder, spices, sugar.
- Pharmaceutical – Large number of powders used in pharmaceutical industries are explosive.

In many parts of the world there have been a number of dust explosions that have destroyed factories, injured or killed people and resulted in production losses and high costs! All of this can be avoided by using the appropriate equipment.

A modular and flexible system

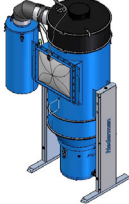
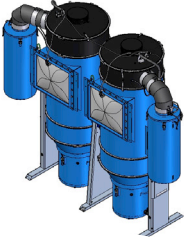
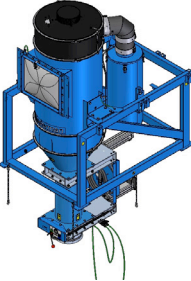
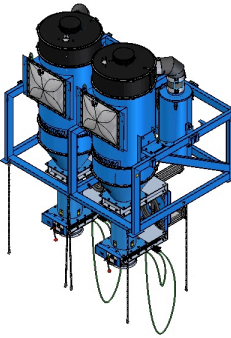
Thanks to the modular design, a Nederman high vacuum system can be designed to meet your unique requirements and provide the freedom to expand capacity for future growth.

Several FlexFilter EX and vacuum units can be combined in clusters to create larger systems.

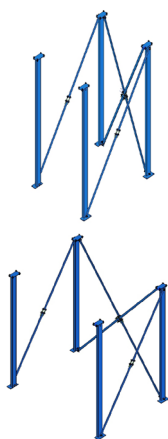
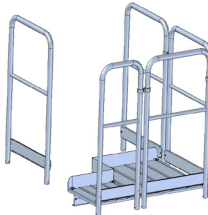

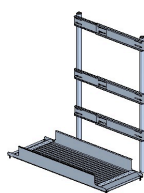
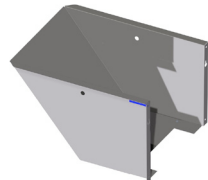
Technical Data FlexFilter EX

The Flexfilter EX is manufactured to withstand overpressure from a potential explosion and is equipped with an explosion relief panel. The harmful effects of an explosion are minimized by venting the overpressure and flame propagation via the relief panel to a safe area. The dust collector is fully earth bonded in all modular components. All electric

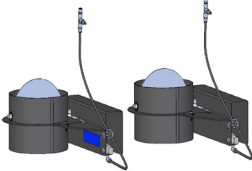

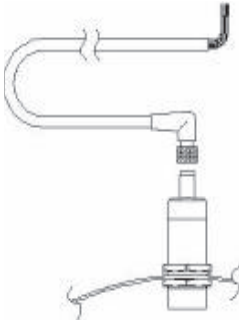
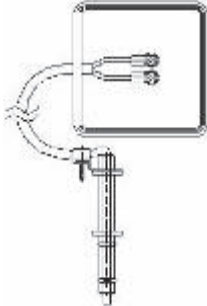
equipment is EX classified for explosive dust. The dust is collected in either a standard 70L bin with antistatic plastic bag, or for large installations, in a conductive bulk bag fitted to a fully automatic empty device. A control filter comes as standard to allow the use of non-EX classified vacuum units.

	Denomination	Part No
	FlexFilter EX Capacity: 1600 m ³ /h (942 cfm) Filter area: 12 m ² Weight: 450 kg (992 lb) Dimensions H x L x W: 2512 x 1518 x 800 mm Dust bin: 70 l Inlet: Flanged Ø 150 mm (5.9 in) Outlet: Ø 203,2 mm (8 in)	40118931
	FlexFilter Twin EX Capacity: 3200 m ³ /h (1884 cfm) Filter area: 2x12 m ² Weight: 850 kg (1874 lb) Dimensions H x L x W: 2512 x 2955 x 800 mm Dust bin: 2x70 l Inlet: Flanged Ø 200 mm (7.87 in) Outlet: 2 x Ø 203,2 mm (8 in)	40118961
	FlexFilter EX High Stand <p>The FlexFilter EX High Stand is a frame mounted dust collector. A TVFD, "Twin Valve Feed out Device", facilitates automatic emptying of the dust collector without loss of vacuum. The FlexFilter EX High Stand is delivered with conductive bulk bags for collection of the dust.</p> <p>The FlexFilter EX High Stand is prepared for legs of different heights that can be fitted to the frame.</p> Capacity: 1600 m ³ /h (942 cfm) Filter area: 12 m ² Weight: 450 kg (992 lb) Dimensions H x L x W: 3081 x 1379 x 1850 mm Dust bin: TVFD and Bulk-bag or similar Inlet: Ø 150 mm (5.9 in) Outlet: Ø 203,2 mm (8 in)	40118941
	FlexFilter Twin EX High Stand <p>The FlexFilter Twin EX High Stand is a frame mounted dust collector. A TVFD, "Twin Valve Feed out Device", facilitates automatic emptying of the dust collector without loss of vacuum. The FlexFilter Twin EX High Stand is delivered with conductive bulk bags for collection of the dust.</p> <p>The FlexFilter Twin EX High Stand is prepared for legs of different heights that can be fitted to the frame.</p> Capacity: 3200 m ³ /h (1884 cfm) Filter area: 2 x 12 m ² Weight: 850 kg (1874 lb) Dimensions H x L x W: 3081 x 2400 x 1850 mm Dust bin: TVFD and Bulk-bag or similar. Inlet: Flanged Ø 200 mm (7.87 in) Outlet: 2 x Ø 203,2 mm (8 in)	40118981

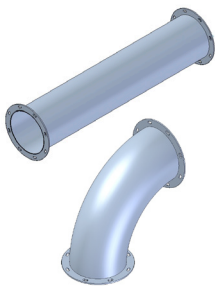
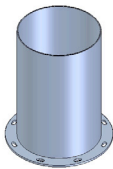
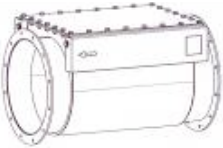
Accessories

	Denomination	Part No
	Legs The legs are suitable for FlexFilter EX High Stand and FlexFilter Twin EX High Stand when conductive bulk bags or other approved collection methods are used. The legs provide easy access to the bulk bags either from the front or the back. Two standard leg heights are available: High and Extra high. The Extra High legs are the highest legs allowed. The legs are supplied complete including all supports and fasteners needed to fit them to the dust collector frame (foundation anchor bolts are NOT included).	
	Legs Single High Dimensions H x L x W: 1985 x 1379 x 1850 mm	40375245
	Legs Single Extra High Dimensions H x L x W: 2545 x 1379 x 1850 mm	40375244
	Legs Twin High Dimensions H x L x W: 1985 x 2400 x 1850 mm	40375243
	Legs Twin Extra High Dimensions H x L x W: 2545 x 2400 x 1850 mm	40375242
	Service platform The service platform is suitable for FlexFilter EX High Stand and FlexFilter Twin EX High Stand. The service platform gives easy access when changing the main filters and control filters. Anyone of the rails on the service platform can be removed to attach a ladder, or a bridge linking to another service platform. Max load on service platform: 400 kg (882 lb)	
	Service platform for FlexFilter EX Single	40375247
	Service platform for FlexFilter EX Twin	40375246
	Ladder for Service platform FlexFilter EX The ladder is suitable when you use a service platform. The ladder can be mounted in rear and side position of the service platform. Adjustable height for legs extra high.	40375248
	Connection kit for service platform The connection kit is suitable when you want to link service platforms together.	40375249
	Deflector Explosion venting deflector for all FlexFilter EX with explosion relief panel. In case of explosion venting, the deflector alters the risk area.	40375004



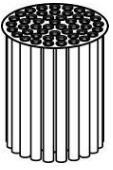
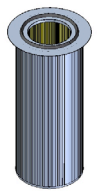
Accessories

	Denomination	Part No
	<p>Twin RF kit</p> <p>The Twin RF kit (Reversed Flow) makes it possible to clean the filters during operation, without loss of vacuum. The RF kit is also suitable for "hard to clean dust" that require a stronger blast of air for the cleaning.</p> <p>The RF kit has an arrangement of valves and uses the capacity of the vacuum unit to clean one filter module while the other remains in normal operation. The Twin RF kit only available for FlexFilter Twin EX.</p>	40375259
	<p>Differential Pressure Switch. 3-15 kPa NC</p> <p>The Differential Pressure Switch (DPS) monitors the pressure drop across for example the main filter. If the pressure drop exceeds a set value between 3-15 kPa the alarm will be activated. The DPS can stop the vacuum unit if wired to the Nederman High Vacuum Starter. Normally Closed (NC) or Normally Open (NO) function. If installed within EX zone, intrinsic safe circuit must be used.</p> <p>Switching voltage: AC eff: min 24V / max 250V DC: min 24V / max 48V.</p> <p>Switching current: AC eff. max 6A (at cos ϕ 1) min 20mA DC: max 1A / min 20mA</p>	40375273
	<p>BLI EX</p> <p>The Bin Level Indicator (BLI) is a proximity switch activated by for example a full dust bin. It can stop the vacuum unit if wired to the Nederman High Vacuum Starter. Resets automatically when the bin is emptied.</p> <p>Adjustable sensibility. Normally Closed (NC) or Normally Open (NO) function.</p> <p>Supply Voltage: 12-240VDC, 24-240VAC Supply Current: 3VA Output: S.P.C.O Output rating: 240V 3A non-ind. ATEX Category: 1D T100°C (Tamb. -15°C - +50°C) The BLI EX comes equipped with 5 m cable</p>	40375269
	<p>Fire alarm</p> <p>The Fire alarm is activated when the temperature exceeds +140°C.</p> <p>It can stop the vacuum unit if wired to the Nederman High Vacuum Starter.</p> <p>Can be used to trigger warnings such as external fire alarm. If installed within EX zone, intrinsic safe circuit must be used.</p> <p>Voltage: 24V AC/DC. (Includes special cables but not standard external cables).</p>	40116540

Piping accessories

	Denomination	Part No
	Flanged pipes Pressure resistant pipes and bends for connection of Isolation valve. Pipes and bends are installed between filter inlet and the Isolation valve. Fasteners and seals are included.	
	Flanged pipe Ø 200 mm, 1 m	40375260
	Flanged pipe Ø 150 mm, 1 m	40375263
	Flanged bend 90° Ø 200 mm	40375261
	Flanged bend 90° Ø 150 mm	40375264
	Transition flanged pipes Pipe is installed as a transition between the Isolation valve and standard high vacuum steel pipes.	
	Transition flanged pipe Ø 200 mm	40375262
	Transition flanged pipe Ø 150 mm	40375265
	Isolation valves The Isolation valve prevents a possible explosion from spreading from the filter, backwards to the workplace.	
	Isolation valve ø 200 mm length 480 mm	12374427
	Isolation valve ø 160 mm length 415 mm	12374400

Consumables

	Denomination	Part No
	Plastic Bag Dust collecting bag made of special conductive material for EX applications. Dimensions: 730 x 900 For FlexFilter EX standard 70 l (18.5 gal) bin 20 pcs <i>Use only Nederman conductive containers when collecting combustible material.</i>	40118800
	Big Bag PP Conductive type C Dust collecting bulk bag made of special conductive material for EX applications. Internal dimension : 88 x 88 x 165 cm S.W.L: 1100 kg 25 pcs <i>Use only Nederman conductive containers when collecting combustible material.</i>	40375271
	Antistatic filter Main filter replacement kit including filter, attachment and top gasket. Area: 12 m ² (129 square feet) Weight: 27 kg (60 lbs)	40119870
	Control filter insert Control filter replacement used in line between the main filter and the vacuum unit and allows for the use of a non EX vacuum unit in combination with EX filter units. Dimension: DY325 X L800mm	40375270

Explosion suppression system

For indoors installations the explosion suppression system can be an option to the explosion relief panel. With an explosion suppression system, the early stage of an explosion is detected with optical and/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 levels of pressure.

IMPORTANT NOTICE!

The explosion suppression system must be quoted on project basis.

Please submit your enquiry to technicalsupport@nederman.se as usual for special products.

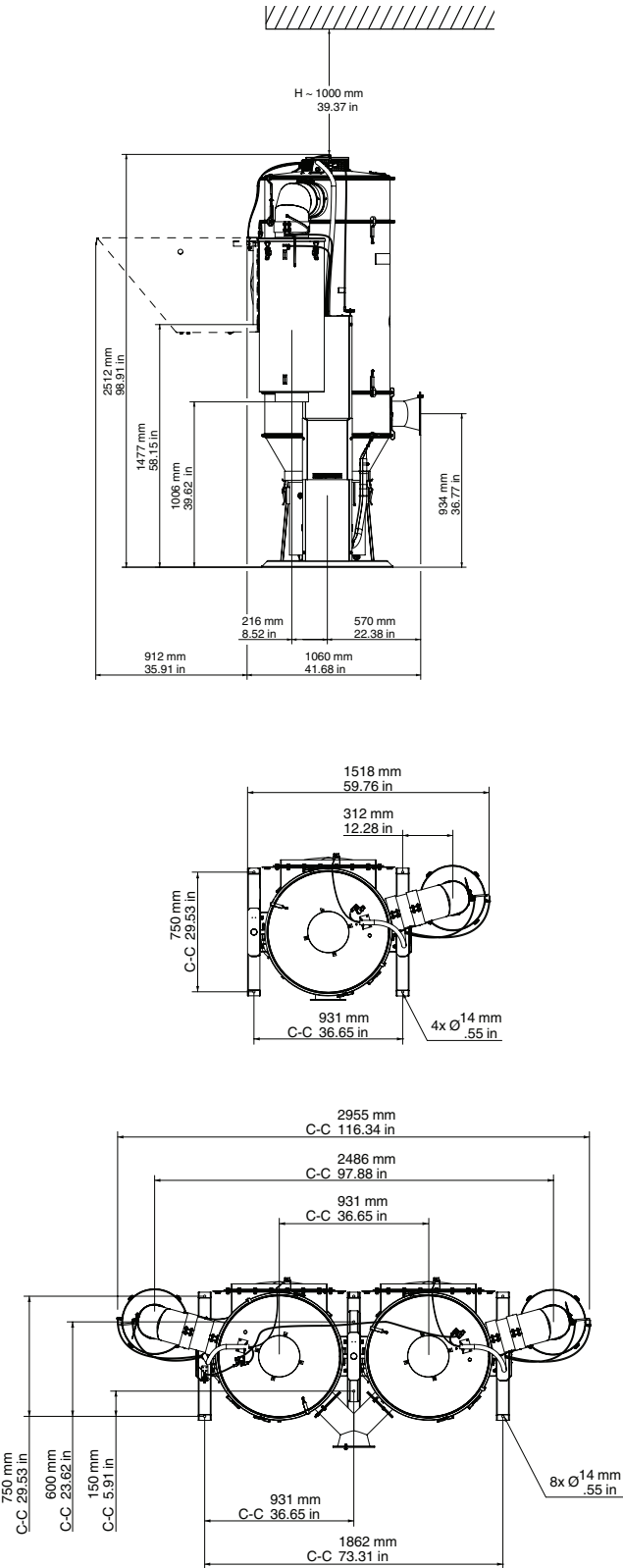


Technical specification

	FlexFilter EX Single Low and high stand	FlexFilter Twin EX Low and high stand
Max operating air flow	1600 m³/h (942 cfm)	3200 m³/h (1884 cfm)
Max vacuum	-50 kPa (-7.25 PSI)	
Process air (dry) temperature	0 - 60°C (32 - 102°F)	
Operating temperature	-10 - +40°C (14 - 104°F)	
Main filter area	1 × 12 m² (1 × 129 sqft)	2 × 12 m² (2 × 129 sqft)
Main Filter material	Conductive (<10⁻⁸Ω) polyester	
Control filter area	1 × 12 m² (1 × 129 sqft)	2 × 12 m² (2 × 129 sqft)
Control Filter material	Polyester	
Control Filter pressure switch preset	4 kPa (0.58 PSI)	
Compressed air quality:	Clean dry, ISO 8573-1 class 5	
Required air pressure	6 - 10 bar (87 - 145 PSI)	
Max air consumption (intermittent)	700 N-Litres/min (25 cfm)	1400 N-Litres/min (50 cfm)
Connection,	Hose nipple 12 mm (1/2 in)	
Control voltage	24 V DC± 10%	
Internal fuse/s (fast acting)	250 mA (5 × 20)	
Control signal fuse (max)	5 A	
Dimensions	See drawings	
Dimension inlet	Flanged Ø 150 mm (5.9 in)	Flanged Ø 200 mm (7.87 in)
Dimension outlet	1 × Ø 203,2 mm (8 in)	2 × Ø 203,2 mm (8 in)
Weight dust separator (approx)	450 kg (992 lb)	850 kg (1874 lb)
Weight legs High Stand *	108 kg (238 lb)	113 kg (249 lb)
Weight legs Extra High Stand *	131 kg (289 lb)	135 kg (298 lb)
Weight deflector	1 × 30 kg (1x66 lb)	2 × 30 kg (2x66 lb)
Weight service platform including ladder *	100 kg (221 lb)	130 kg (286 lb)
Max load on service platform *	400 kg (882 lb)	
Area relief panel	1 × 0,235 m² (1 × 2.53 sqft)	2 × 0,235 m² (2 × 2.53 sqft)
Relief panel burst pressure	0,1 bar (1.45 PSI)	
Material description	Powder coated steel	
Material recycling	Approx 94 weight %	
The FlexFilter EX is ATEX classified and marked	CE II 3D Ex c T=130 °C	

* High stand only

Dimensions Low Stand
Single and Twin



Dimensions High Stand
Single and Twin

