

MJ Filter

Metal • Cement • Powder Bulk • Welding • Plastic Petro-Chemical • Pharmaceutical • Food

MJ Filter Feature

Metal • Cement • Powder Bulk • Welding • Plastic Petro-Chemical • Pharmaceutical • Food



A range of reverse jet cleaned tubular bag filters or cartridge filters, suitable for extracting dust from continuous processes. They may operate as free standing filter units complete with hopper and discharge devices, or as open base flanged units for mounting on silos or other vessels.

750 - 190,000 m³/h

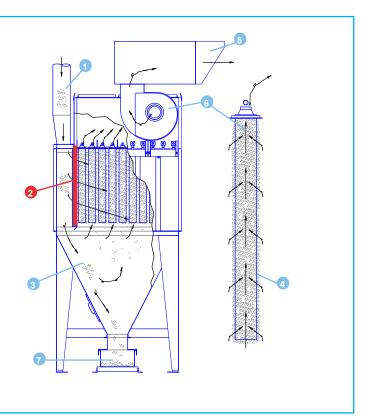
- Suitable for many different applications that generate light to heavy volumes of any dust.
- Robust welded steel construction.
- Replacement filter media from clean air side.
- Weatherproof for exposed locations.
- Full range of filter materials available.
- ATEX compliant for explosion dusts in categories St1, St2, and St3.
- Build-in pre-separation with down flow / cross flow air distribution.

- Wide range of efficient Combifab fans.
- Normal maximum working temperature 80°C.
- Normal maximum negative pressure 8000 Pa.
- Normal maximum positive pressure 2000 Pa.
- Cleaning controller type NF8HD250 in IP65 enclosure, supply voltage 230/220/110V.
- Typical air flow volumes up to 190, 000 m³/h per single filter unit. Larger units available upon request.

How MJB Filter works

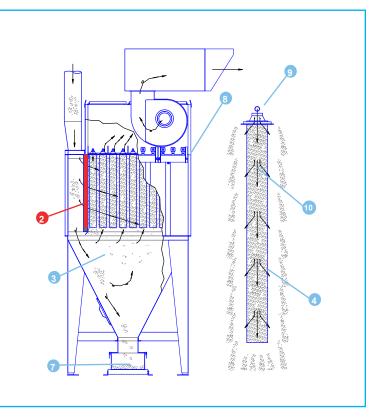
...during normal operation

- 1. During normal operation, the dust laden air from the plant travels down the supply duct 1
- A vertical slotted baffle separates the inlet section that slows the airstream and directs dust downward into the hopper, 3 protecting the bags from direct abrasion but allowing air to pass horizontally between the bags.
- 3. The lighter dust collects on the outside of the tubular bag d as clean air passes through to the inside of the bags to the d clean air chamber 6. Finally, the clean air travels through the air outlet 6 where it may be returned to the plant or exhausted outdoors 5.
- The heavier dust settles in the hopper section 3 where it can be discharged into a metal bin 7 or other waste discharge system.



...while cleaning

- The MJB can utilize a differential pressure gauge to control the compressed air cleaning. In essence, the filter cleans itself when it needs to!
- 2. A compressed air line must be connected to one end of the compressed air manifold 8
- A solenoid valve opens to allow compressed air from the manifold into the jet tubes ().
 The jet tubes are aligned above each row of filter bags.
- The downward blast 10 blows the dust off the tubular filter bag (from the inside out) 4 where it settles into the hopper section 3 to be collected in the metal bin 7 or other waste discharge system.





MJB Filter Technical and Dimensions

Dimension F: From the bottom of the clean air chamber to the top of the silencer (Weight of the fan and silencer). Fan up to 3 kW: Fan from 4 to 7.5 kW: F = 1685 mm (108 kg)Fan from 7.5 to 18.5 kW:

- F = 1386 mm (67 kg)
- F = 1850 mm (188 kg)

Length of Filter Bags Type S = 1000 mm Type M = 1315 mm Type L = 2000 mm Type XL = 2400 mm

MJB-L Filter

Т	Dimensions					
	Number	Filter	Typical	Α	В	с
Туре	Number of filter bags	area m ²	maximum airflow volume m ³ /h	Width	Depth	Height
MJB 14/L/36	18	14	1500	1150	1220	4395
MJB 19/L/46	24	19	2000	1150	1220	4395
MJB 19/L/38	24	19	2000	1150	1570	4595
MJB 26/L/48	32	26	2800	1150	1570	4595
MJB 32/L/58	40	32	3500	1500	1570	4755
MJB 35/L/4-11	44	35	3800	1150	2095	5195
MJB 38/L/68	48	38	4100	1500	1570	4755
MJB 44/L/78	56	44	4800	1850	1570	4935
MJB 44/L/5-11	55	44	4800	1500	2095	5195
MJB 50/L/88	64	50	5400	1850	1570	4935

		<u>А</u>	1	B.	
			Air outlet		
	Air inle 878				
c			,		

Тео	Technical parameters										
	Number	Filter	Typical	А	В	С					
Туре	of filter bags	area m ²	maximum airflow volume m ³ /h	Width	Depth	Height					
MJB 52/L/6-11	66	52	5600	1500	2095	5195					
MJB 60/L/7-11	77	60	6500	1850	2095	5195					
MJB 70/L/8-11	88	70	7600	1850	2095	5195					
MJB 78/L/9-11	99	78	8400	2200	2095	5365					
MJB 87/L/10-11	110	87	9400	2200	2095	5365					
MJB 94/L/11-11	121	94	10200	2550	2095	5195					
MJB 104/L/12-11	132	104	11300	2550	2095	5195					
MJB 120/L/14-11	154	120	13000	3250	2095	5195					
MJB 140/L/16-11	176	140	15200	3600	2095	5195					

MJB-XL Filter

Т	echnical pa	rameters		[Dimensio	ns	Тес	hnical para	meters		Dimensions		
	Number	Filter	Typical	Α	В	С		Number	Filter	Typical	Α	В	С
Туре	of filter bags	area m ²	maximum airflow volume m ³ /h	Width	Depth	Height	Туре	of filter bags	area m ²	maximum airflow volume m³/h	Width	Depth	Height
MJB 23/XL/38	24	23	2500	1150	1570	4995	MJB 74/XL/7-11	77	74	8000	1850	2095	5595
MJB 31/XL/48	32	31	3400	1150	1570	4995	MJB 84/XL/8-11	88	84	9100	1850	2095	5595
MJB 38/XL/58	40	38	4100	1500	1570	5155	MJB 94/XL/9-11	99	94	10200	2200	2095	5765
MJB 42/XL/4-11	44	42	4550	1150	2095	5595	MJB 105/XL/10-11	110	105	11400	2200	2095	5765
MJB 46/XL/68	48	46	5000	1500	1570	5155	MJB 115/XL/11-11	121	115	12500	2900	2095	5595
	55	52			1570		MJB 125/XL/12-11	132	125	13500	2900	2095	5595
MJB 52/XL/5-11	55	52	5600	1850	1570	5335	MJB 145/XL/14-11	154	145	15700	3250	2095	5595
MJB 54/XL/78	56	54	5900	1500	2095	5595	MJB 165/XL/16-11	176	165	17900	3600	2095	5595
MJB 60/XL/88	64	60	6500	1850	1570	5335	MJB 190/XL/18-11	198	190	20600	3950	2095	5765
MJB 63/XL/6-11	66	63	6800	1500	2095	5595	MJB 210/XL/20-11	220	210	22700	4300	2095	5765

Key example : MJB 14 / L / 36

14	Filter area m ²
L	Filter bag height
36	Number of cleaning valve (3) and number of bag per valve (6)

MJB-A and MJB -H Filter Technical and Dimensions

Filter sizes from 158 m² to about 1770 m² are available as pre-assembled units. Airflow volumes up to around 190,000 m³/h (subject to application) are possible for such units. The mod ular design enables larger units to be assembled and also existing units to be extened whenever required.

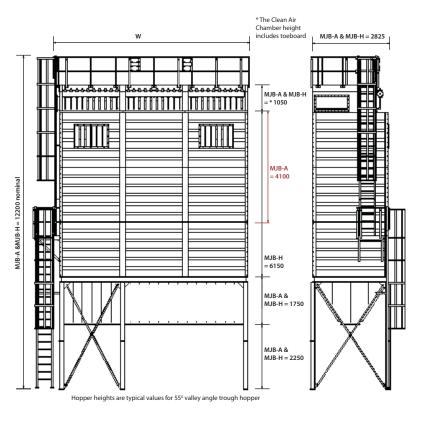
Inlet air (raw gas) and clean air outlet connections



For the MJB-A, the dirty air chamber comprises two sections of the type illustrated, one mounted on top of the other to accommodate the 4.1m long bags.

For the MJB-H, the dirty air chamber compises three sections of the type illustrated, mounted on top of each other, to accommodate the longer (6.1m) bags.

MJB-A unit	No of. bags	Filter area (m²)	No. of valves	Width W (mm)	No. of tanks	Filter weight excl. hopper (kg)	Typical weight of hopper (kg)	s	umb & size o ectio	of	MJB-H unit	No of. bags	Filter area (m²)	No. of valves	Width W (mm)	No. of tanks	Filter weight excl. hopper (kg)	Typical weight of hoppe (kg)
MJB 158/A/8-10	80	158	8	1935	1	3417	1367	1	-	-	MJB 295/H/10-10	100	295	10	2365	1	4350	1740
MJB 198/A/10-10	100	198	10	2365	1	3890	1556	-	1	-	MJB 354/H/12-10	120	354	12	2795	1	4919	1968
MJB 238/A/12-10	120	238	12	2795	1	4367	1747	-	-	1	MJB 472/H/16-10	160	472	16	3870	2	6571	2628
MJB 317/A/16-10	160	317	16	3870	2	5835	2334	2	-	-	MJB 531/H/18-10	180	531	18	4300	2	7136	2854
MJB 356/A/18-10	180	356	18	4300	2	6308	2523	1	1	-	MJB 590/H/20-10	200	590	20	4730	2	7701	3080
MJB 396/A/20-10	200	396	20	4730	2	6781	2712	-	2	-	MJB 649/H/22-10	220	649	22	5160	2	8270	3308
MJB 435/A/22-10	220	435	22	5160	2	7258	2903	-	1	1	MJB 708/H/24-10	240	708	24	5590	2	8839	3536
MJB 475/A/24-10	210	475	24	5590	2	7735	3094	-	-	2	MJB 767/H/26-10	260	767	26	6235	3	9922	3969
MJB 515/A/26-10	260	515	26	6235	3	8726	3490	2	1	-	MJB 826/H/28-10	280	826	28	6665	3	10487	4195
MJB 554/A/28-10	280	554	28	6665	3	9199	3680	1	2	-	MJB 885/H/30-10	300	885	30	7095	3	11052	4421
MJB 594/A/30-10	300	594	30	7095	3	9672	3869	-	3	-	MJB 944/H/32-10	320	944	32	7525	3	11621	4648
MJB 633/A/32-10	320	633	32	7525	3	10149	4060	-	2	1	MJB 1003/H/34-10	340	1003	34	7955	3	12190	4876
MJB 673/A/34-10	340	673	34	7955	3	10626	4250	-	1	2	MJB 1062/H/36-10	360	1062	36	8385	3	12759	5104
MJB 713/A/36-10	360	713	36	8385	3	11103	4441	-	-	3	MJB 1121/H/38-10	380	1121	38	9030	4	13838	5535
MJB 752/A/38-10	380	752	38	9030	4	12 090	4836	1	3	-	MJB 1180/H/40-10	400	1180	40	9460	4	14403	5761
MJB 792/A/40-10	400	792	40	9460	4	12563	5025	-	4	-	MJB 1239/H/42-10	420	1239	42	9890	4	14972	5989
MJB 831/A/42-10	420	831	42	9890	4	13040	5216	-	3	1	MJB 1298/H/44-10	440	1299	44	10320	4	15541	6216
MJB 871/A/44-10	440	871	44	10320	4	13517	5407	-	2	2	MJB 1357/H/46-10	440	1357	44	10320	4	16110	6444
MJB 911/A/46-10	460	911	46	10750	4	13994	5598	-	1	3	MJB 1337/11/40-10 MJB 1416/H/48-10	400	1416	40	11180	4	16679	6672
MJB 950/A/48-10	480	950	48	11180	4	14471	5788	-	-	4								
MJB 990/A/50-10	500	990	50	11825	5	15454	6182	-	5	-	MJB 1475/H/50-10	500	1475	50	11825	5	17754	7102
MJB 1029/A/52-10	520	1029	52	12255	5	15931	6372	-	4	1	MJB 1534/H/52-10	520	1534	52	12255	5	18323	7329
MJB 1069/A/54-10	540	1069	54	12685	5	16408	6563	-	3	2	MJB 1593/H/54-10	540	1593	54	12685	5	18892	7557
MJB 1108/A/56-10	560	1108	56	13115	5	16885	6754	-	2	3	MJB 1652/H/56-10	560	1652	56	13115	5	19461	7784
MJB 1148/A/58-10	580	1148	58	13545	5	17362	6945	-	1	4	MJB 1711/H/58-10	580	1711	58	13545	5	20030	8012
MJB 1188/A/60-10	600	1188	60	13975	5	17839	7136	-	-	5	MJB 1770/H/60-10	600	1770	60	13975	5	20599	8240



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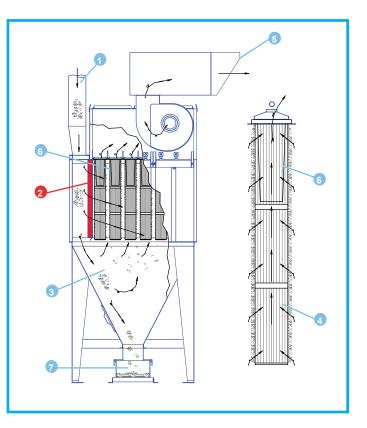
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MJC Filter How MJC Filter works

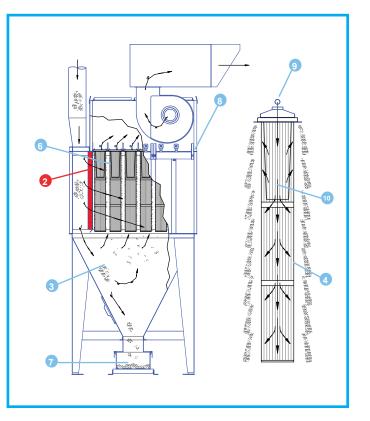
...during normal operation

- During normal operation, the dust laden air from the plant travels down the supply duct 1.
- 2. A vertical slotted baffle 2 separates the inlet section that slows the air stream and directs dust downward into the hopper 3, protecting the cartridges from direct abrasion but allowing air to pass horizontally between the cartridges.
- The lighter dust collects on the outside of the filter cartridges
 as clean air passes through to the inside of each cartridges. Finally, the clean air travels through the air outlet
 where it may be returned to the plant or exhausted outdoors
- The heavier dust settles in the hopper section 3 where it can be discharged into a metal bin 7 or through a rotary air valve.



...while cleaning

- The MJC can utilize a differential pressure gauge to control the compressed air cleaning. In essence, the filter cleans itself when it needs to!
- 2. A compressed air line must be connected to one end of the compressed air manifold ^(B)
- 3. A solenoid valve opens to allow compressed air from the manifold into the jet tubes. The jet tubes are aligned above each row of the filter cartridges ③.
- 4. The downward blast ¹⁰ blows the dust off the cartridges (from the inside out) ⁴ where it settles into the hopper section ³ to be collected in the metal bin ⁷ or other waste discharge system.



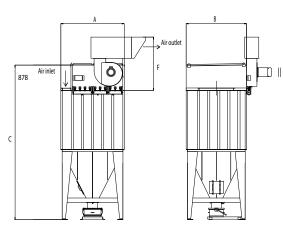


MJC Filter Technical and Dimensions

Dimension F: From the bottom of the clean air chamber to the top of the silencer

(Weight of the fan and silencer). Fan up to 3 kW: Fan from 4 to 7.5 kW: Fan from 7.5 to 18.5 kW:

F = 1386 mm (67 kg) F = 1685 mm (108 kg) F = 1850 mm (188 kg)



MJC - 40 type filter

	Technical pa	rameters		Dimensions			
Туре	Number of filter bags	Filter area m ²	Typical maximum airflow volume m ³ /h	А	В	с	With pre-separation section located on
			airtiow volume m ⁻ /n	Width	Depth	Height	
MJC 48/40/43	12	48	4600	1150	1220	3395	Right or left side
MJC 64/40/44	16	64	6100	1500	1570	3755	Right or left side
MJC 80/40/54	20	80	7700	1850	1570	3935	Right or left side
MJC 96/40/38	24	96	9200	1500	2095	4195	In the middle
MJC 128/40/48	32	128	12300	2200	2095	4365	In the middle
MJC 160/40/58	40	160	15400	2550	2095	4195	In the middle
MJC 192/40/68	48	192	18400	2550	2095	4195	In the middle
MJC 224/40/78	56	224	21500	2900	2095	4195	In the middle
MJC 256/40/88	64	256	24600	3250	2095	4195	In the middle
MJC 288/40/98	72	288	27600	3600	2095	4195	In the middle

MJC - 66 type filter

	Technical pa	rameters		Dimensions			
Trees	Number of Elter hore	Filter area m ²	Typical maximum	A	В	с	With pre-separation section located on
Туре	Number of filter bags	Filter area m	airflow volume m ³ /h	Width	Depth	Height	
MJC 60/66/33	9	60	5700	1150	1220	3765	At rear
MJC 79/66/43	12	79	7600	1150	1220	3765	At rear
MJC 105/66/44	16	105	10100	1500	1570	4125	At rear
MJC 132/66/54	20	132	12700	1850	1570	4305	At rear
MJC 158/66/38	24	158	15200	1500	2095	4565	Right or left side
MJC 211/66/48	32	211	20200	2200	2095	4735	Right or left side
MJC 264/66/58	40	264	25300	2550	2095	4565	Right or left side
MJC 316/66/68	48	316	30300	2550	2095	4565	Right or left side
MJC 369/66/78	56	369	35400	2900	2095	4735	Right or left side
MJC 422/66/88	64	422	40500	3250	2095	4565	Right or left side
MJC 475/66/98	72	475	45600	3600	2095	4565	Right or left side
MJC 528/66/10-8	80	528	50700	4300	2095	4565	In the middle
MJC 580/66/11-8	88	580	55700	4650	2095	4565	In the middle
MJC 634/66/12-8	96	634	60700	4650	2095	4565	In the middle
MJC 686/66/13-8	104	686	65800	5000	2095	4565	In the middle
MJC 739/66/14-8	112	739	70900	5700	2095	4735	In the middle

Key example: MJC 48/40/43

48	Filter area m ²
40	Cartridge of 4.0 m ² per unit (66 = 6.6 m ²)
43	Number of cleaning valve (4) and number of cartridge per valve (3)



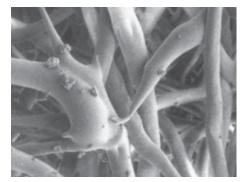
MJB Filter Filter Material

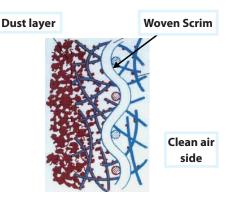


MJB reverse jet tubular bag filters typical utile robust high efficiency nonwoven needlefelt materials incorporating a woven scrim for stability, with various finishes to suit the application and materials to be filtered or collected.

The material may have a glazed dust collection surface. This improves the dust release properties for use with "difficult" dust materials. This is shown here magnified.

The basic material is polyester needlefelt with a singed dust collection surface. However, many other base materials are available to suit particular applications. There are materials to resist attack from acidic and alkaline atmospheres; with enhanced abrasion resistance; for higher temperatures; with anti-static properties; with flame retardant treatments and with other special properties.





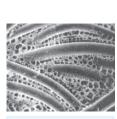
Needlefelt can be made from many other kinds of fiber for example:

Polypropylene (PP) Polyamide (NOMEX) Polyphenyl Sulphide (PPS) (Ryton) Polyimide (P84) Homopolymer-acrylic (PAN) (Dralon) PTFE (Gore-Tex) (Ravlex)

Self supported (scrimless) materials are economic for many general applications.

Typical cross section of a used needlefelt with scrim





Ravlex PTFE surface

Typical standard filter materials

Туре	Material	Weight g/m²	Permeability under 200 Pa (m ³ /m ² /h)	Characteristics		
NF100	Polyester	500	1800	Singed		
NF130	Polyester	500	1050	Glazed oil/water resistant *		
NF142	Polyester	500	750	Glazed, antistatic, oil/water resistant *		
NF301	Polyester	300	2200	Standard fininsh		
NF304	Polyester	300	1550	Glazed		

Many other types available for particular applications upon request.

The residual dust emissions will depend upon on the filter speed, the dust loading and the efficiency when filtering the particular dust and other characteristics relating to the application, operating conditions and dust type

* For higher humidity or slightly oily dusts.

MJC Filter Filter Material



At the heart of every MJC cartridge filter is the UniClean patent pleated cartridge element.

The overall dimensions, including pleat depth and spacing were designed uniquely for the MJC range. More than ten year's experience in many applications and the more recent introduction of the UniClean feature ensure maximum performance and long life.

The MJC range uses a **Type 40** with $4.0m^2$ or a **Type 66** with $6.6m^2$ per element.

Filter materials are:

- **CA100** high quality thermal bonded polyester pleated fabric as standard.

- **CA140**, similar to CA 100, with adding metalized antistatic treatment.

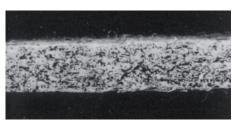
- **CA190**, similar to CA100, with adding PTFE treatment for ease of dust release (sticky dust)

- **CA175** is 80% cellulose, 20% polyester material available to special order.

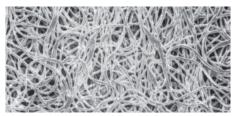


Surface filtration

The filter media is typically around 1.7mm thick but contains many layers of random fibers. Filtration occurs at or very near the surface of the materials and its efficiency (BIA class U, S, G, and C) may be further enhanced by a surface layer of dust. For light dust loads, or very fine dust, it may be beneficial to pre-coat the filter by introducing used dust, or a special pre-coat material.



Cross section CA100

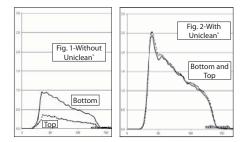


Surface magnified x 200

UniClean[®] in detail

UniClean[®] provides more uniform cleaning air pressure over the whole cartridge during pulse cleaning. With conventional cartridges, the thick dust layer tends to form at the top section of the filter due to uneven and ineffective pulse cleaning and cause less filtration area.

The UniClean[®] concept overcomes this problem, dust accumulations being directed towards the middle of the cartridge. Another advantage is that it guarantees uniform cleaning pressure, as explained above.



The internal air cleaning pressure is considerably higher than conventional cartridges with a similar reverse jet cleaning system. (Compare figures 1 and 2).

Effective cleaning reduces the number of cleaning impulses required. Consequently, the lifetime of the filter medium is longer and energy consumption for cleaning lower.

Patents Germany: 19909075.0 International: PCT/EP00/01801



MJ Filter **Integral Fans for MJ Filter**

MJ units may be fitted with space saving integral high efficiency radial fans. Single fans can deliver up to 14,000 m³/h but some larger units may be fitted with two fans. A floor mounted version of the same fan range is also available as an option.

Fans for larger installations

installations Larger may be served by separately mounted Nederman Combifab fans when appropriate. Combifab is a range of high efficiency low noise fans.



The clean air impeller, Combifab Type R is closed bladed impeller with backward curved blades. It is the most suitable for MJ filter unit.

Combifab fan can be arranged in direct drive or belt driven to suit the installation site and impeller speed. Variable speed inverter is available upon specified.

- Airflow volumes up to 70, 000m³/h
- High efficiency up to 87%

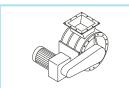
Floor mounted larger Combifab will be more practical and cost effective solution compared to multiple integral fan to meet the higher air volume demand.

MJ Filter Options

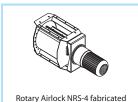




Detachable Fan 0.75 kW to 18.5 kW



250mm cast rotary valve 0.75kW

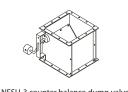


HEPA filter kits

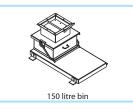




Fan discharge damper opposed blade

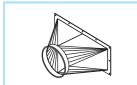


NFSU-3 counter balance dump valve





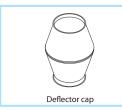
Double flap valve discharge for big bag



Inlet transitions flanged to round



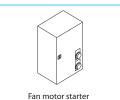
Screw conveyor



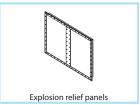




for side mounted fans



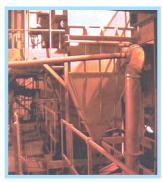
Bindicator



Application



Fume extraction from hot-dip galvanizing process



Cement uploading and conveying for production and distribution



Waste gas cleaning for garbage disposal plant separating of dust and sulphur dioxide



Conveying and handling hydrated lime for steel production



Extraction of cleaning and packing process from rice mill, Agriculture industry



Dockside handling, conveying and storage, of grain



Extraction from rice polishing



Cutting, trimming and finishing gypsum products



Cement Plant / Belt Conveyor Process, Cement / Lime industry

Applications for wide range of process include:

Industry

- All powder, pellets and granulated material
- Agriculture
- Ceramic
- Chemicals & Pharmaceutical
- Food processing
- Foundry
- Galvanizing
- Metal & Casting
- Shot blast
- Surface finishing, decorative coating
- ... and many more

Process

- Conveying, mixing, blending
- Bag filling and emptying
- Blast cleaning
- Crushing, screening, sieving
- Milling
- Melting and sand reclamation to fettling and finishing
- Hot metal processes
- Grinding, polishing, finishing
- Machines and booths.Powder coating



FACTS ABOUT NEDERMAN

The Nederman Group is one of the world's leading suppliers of products and solutions within the environmental technology sector, focusing on industrial air filtration and recycling.

Nederman products and solutions contribute to reducing environmental impacts from industrial production and to creating safe and clean working environments whilst boosting production efficiency.

The group's offering covers everything from the design stage through to installation, commissioning and servicing. Nederman has subsidiaries in 29 countries and agents and distributors in over 30 countries.

Nederman is ISO 9001 and 14001 certified. The group develops and produces in its own manufacturing and assembly units in Europe, North America and Asia.

In 2010 Nederman acquired Dantherm Filtration, thereby froming the world's leading group within industrial air filtration.



Nederman S.E.A. Co., Ltd.

66/1 Moo 11 Bangkruay-Sainoi Road, T. Bangbuathong, A. Bangbuathong, Nonthaburi 11110, Thailand. Phone: +66 2715 1300 Fax: +66 2715 1301 Email: info.th@nederman.com Vietnam Representative Office in Ho Chi Minh City: Phone: +84 835 265 541 Fax: +84 835 265 541 Email: info.vn@nederman.com Nederman (Malaysia) Sdn. Bhd. (892768-T): Phone: +603 8940 1192 Fax: +603 8940 1196 Email: info.my@nederman.com Indonesia Representative Office: Phone: +62 815 1499 7996 Fax: +62 815 1499 7996 Email: info.id@nederman.com

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