



# Filter Systems

...by professionals



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Results Through Technology

# Welcome to Blue-vent

- where customer satisfaction is achieved through efficiency, reliability and safety of our installations.



**Peter Jacobsen**  
(BSc. Engineering)  
Managing Director



**Kenneth Rasmussen**  
(BSc Econ.)  
Sales Director

Our strong team of engineers with focus on innovation and quality has ensured Blue-vent staying ahead of the competition for the supply of dust collectors to the wood and panel board processing industries.

A traditional dust collector system consume a lot of electricity. With our plant designs and energy efficient installations, our customers enjoy a considerable reduction in their energy bills.

We offer our customers cost efficient solutions, without compromising on safety and quality. Our systems comply with ATEX regulations to ensure highest safety standards. All our equipment is made from the highest quality raw materials and components to ensure reliability.

Blue-vent is able to display a reference list of more than two hundred turn-key installations. Customer satisfaction is of utmost importance to us and we are especially proud to retain and enjoy continuous support from our customers.

We focus on staying innovative and flexible to continue serving our customers.

## Our Group of Companies:

Blue-vent Pte Ltd – Singapore HQ  
Production

Blue-vent Europe ApS - Denmark  
Projects

PMD Ventilation A/S – Denmark  
Components

PMD Benelux Rep. Office – Belgium  
Components

Blue-vent Beijing Trading Co. Ltd – China  
Projects

Blue-vent Indonesia Rep. Office – Indonesia  
Projects

PMD Metal Works Co. Ltd – Vietnam  
Production

American Duct Supply LLC – USA  
Components/Production

## Milestones:

**2016** - launch of distribution center in Chicago, IL

**2015** - expansion of manufacturing facility by 1800m<sup>2</sup>.

**2014** - more than 200 filter installations with total filter capacity of more than 20 mil. m<sup>3</sup>/h.

**2013** - expansion of manufacturing facility by 2000m<sup>2</sup>

**2012** - launch of distribution center in Denmark

**2010** - launch of production facility in Vietnam

**2009** - launch of Multijet filter series

**2007** - launch of R&D and production facility in Singapore

**2005/2006** - Blue-vent establish itself as the no. 1 supplier of dust collector systems in Asia.

*Blue-vent Pte Ltd founded in Mar. 2004.*



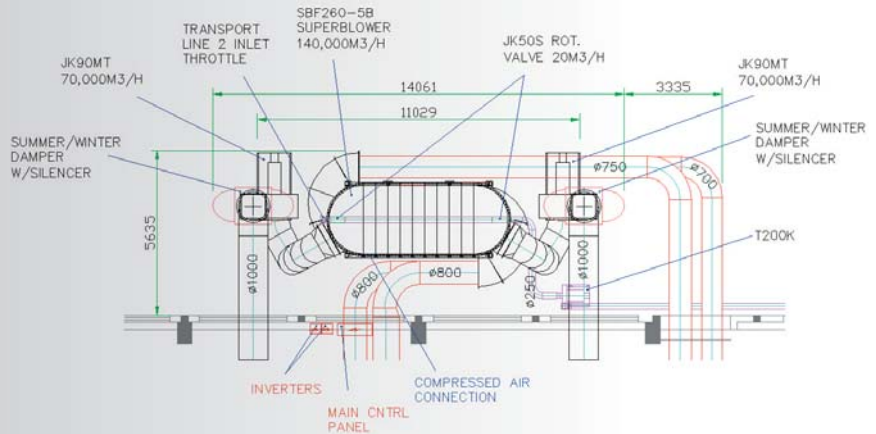
# Design & Engineering

Blue-vent provide customers with professional design and engineering services.

System designs focus on: *Energy saving, safety, flexibility* as well as *trouble free operation*.

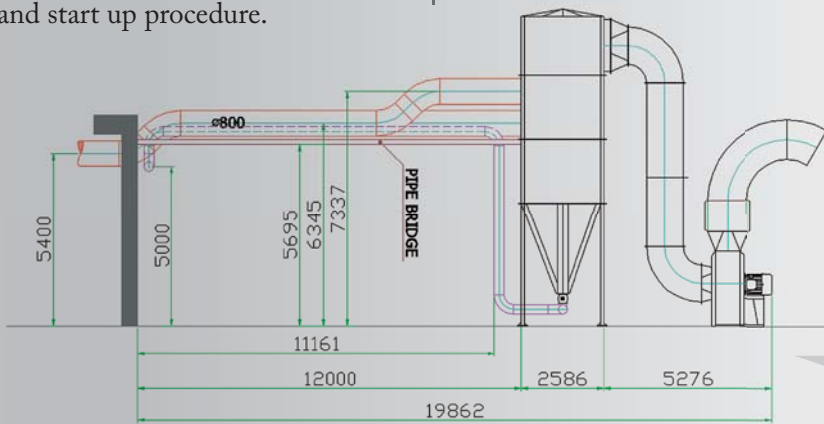
Designs are discussed and confirmed in a dialog with the customer, to ensure, that the system is according to requirements and budget.

Our engineers create drawings, to which the system is prefabricated and then assembled. The accurate layout drawings result in easier installation work and start up procedure.



Blue-vent filter systems are easily erected in accordance to detailed design drawings, and will be “built as drawn”.

The careful design work, with manufacturing according to 3D-CAD design combined with our strict quality control procedures, ensure accurate delivery of high quality products, which are tested and proven.

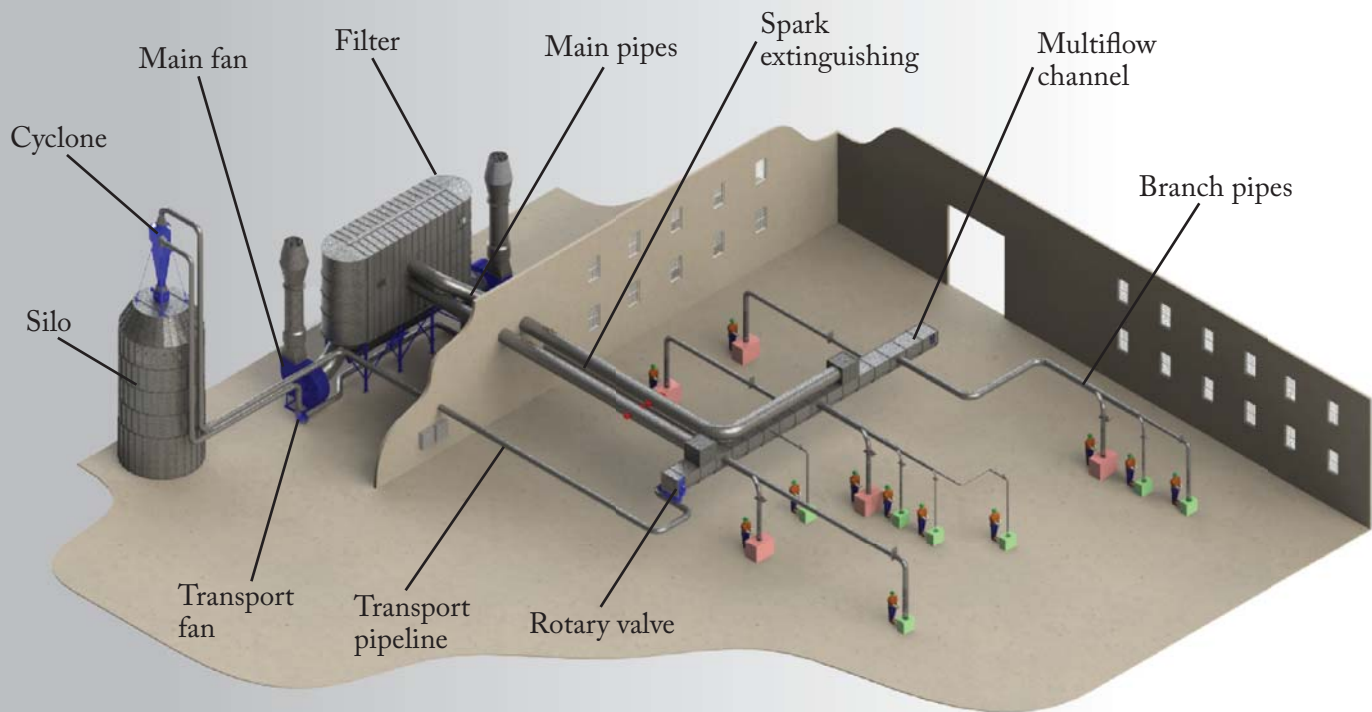


Installations are supervised by our experienced installation team. During start up and commissioning of the plant, our engineers measure performance to ensure compliance with the agreed specifications.





# Installation & Service



Installations are supervised by our experienced installation team. During start up and commissioning our engineers measure the performance of the system, to ensure compliance with the agreed specifications.

Blue-vent provide a comprehensive *Operator and Service Manual* and our engineers provide a thorough training of the customers operators. Training is conducted in safe operation of the system, in service of components and in planning of a maintenance schedule.

Blue-vent keep stock of essential spare parts, and has a team of skilled service technicians available around the clock, we guarantee that our technicians are on-site within 24 hours.





# EControl - energy savings

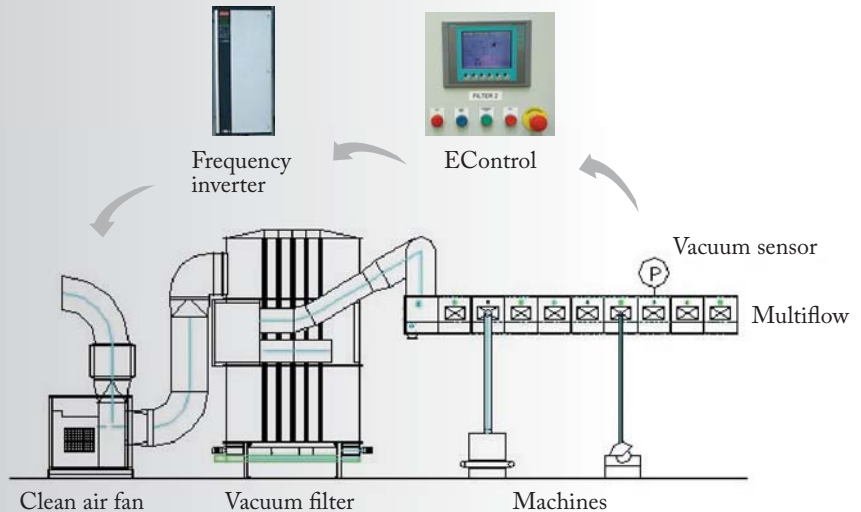
Traditional dust collector systems consume a lot of energy. Our filter technology is based on vacuum filters, where clean air fans with efficiencies of more than 80% are used.

By using variable speed drives on all fans the airflow can be reduced or increased depending on the demand from the production floor.



Blue-vent's EController monitors the pressure in the Multiflow channel or in the main pipes and automatically modulates the speed of the main fans. When machines are not in use they are isolated by a valve and the control system automatically reduces the airflow in the system by reducing the fan speed.

By using high efficiency fans and controlling the fan speed according to demand an electricity saving of up to 50% compared with traditional filter systems can be achieved.



### Case study:

*A Filter system connected to a Multiflow channel with a total of 160,000m<sup>3</sup>/h capacity:*

Power consumption at various demands of full load:

100% = 160kW (85% efficiency)
80% = 128kW (83% eff.)
65% = 109kW (82% eff.)
50% = 93kW (72% eff.)
40% = 84kW (64% eff.)

The fans operate at high efficiency, as long as at least 50% of the machines are in operation. The demand must drop to 40% before the efficiency is as low as for traditional fans.

The factory had an average load of 75% with power consumption of 120kW. In 10hr operation the electricity cost was \$150.

Traditional systems with belt-driven fans with a typical efficiency of 65% would consume 200kW though out the day.

The EControl system reduce the yearly electricity bill with \$32,000.

Installation of rotation and positioning sensors on all devices, such as rotary valves, screws, conveyors and cleaning carriage enables the EControl system to display a complete mapping and history log, which is essential for fast and efficient troubleshooting and service.



The EControl system is a PLC based control system. The process is simulated and carefully tested by our engineers before leaving our factory to ensure easy start up of the filter system during installation.



Testing and simulation



# Superblower filters

Superblower filters from Blue-vent are compact vacuum filter, which offers the absolute latest filtration technology.

Superblower filters are vacuum filters with built-in Powerpulse® cleaning system. The low pressure cleaning system, reduces compressed air consumption by as much as 80%.



Superblowers are constructed from modular panels in Domex steel. The filter has a strong design and can be operated at high vacuum.



The advanced design of Blue-vent filters result in very low wear and tear, which increases the lifespan of the filter.

The Superblower filters are made in 3 sections.

The center section is the *filtration section*. The top is the *cleaning section*, where the cleaning system is located.

After the dust has been purged from the filter bags, it falls in to the *material handling section* in the bottom of the filter.

A scraper or a screw convey the dust through a rotary valve into for example a pneumatic transport line, which transports the dust to a silo.





# Multijet A-filters

Multijet A-filters from Blue-vent are vacuum filters especially designed for filtration in the panelboard and furniture industries. The filters are also suitable for dust filtration for various other industries.

The intelligent cleaning system ensures maximum energy savings.



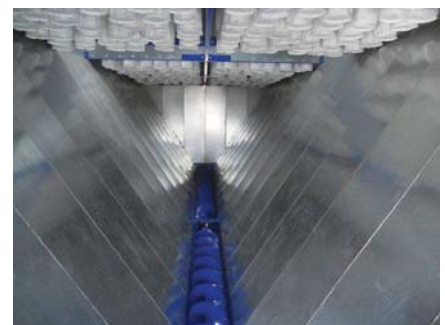
A-filters are constructed from modular panels and available in various models suitable for filtration of medium to high air volumes.



The advanced design of our filters result in very low wear and tear and increased lifespan of filter bags.



A-filters consist of 3 sections. The center section is the *filtration section*. The top is the *cleaning section*, where the cleaning system is located. After the dust has been purged from the filter bags, it falls into the *dust handling section* in the bottom of the filter.





# Piping & Multiflow channel

Blue-vent fabricate a modular pipe system, assembled by pull-rings. Our pipe system is made from high grade galvanized steel with high corrosion resistance.

The pipe system is easy to install and can be reused, if machine layout is changed.



Blue-vent Multiflow channel is a vacuum manifold, which ensures constant suction from all machines at all times.

Pressure in the channel is kept constant by speed controlled fans. The speed of fans is regulated automatically, to suit the required exhaust, thus reducing the energy consumption to an absolute minimum.



The combination of our modular pipe system and Multiflow system, results in an unprecedented flexibility in layout, where machines can be relocated, removed or added without the need to modify main pipes or other main components.



The combination of our vacuum filtration technology, where high efficiency fans are used, with the Multiflow channel, result in a reduction of energy consumption by up to 50%.

Besides optimized flexibility and reduced energy efficiency the Multiflow channel function as a pre-filter, where up to 80% of the exhausted dust is filtrated in the channel. Only very fine dust escape to the dust collector, which reduces the wear and tear on the filter system and increase the life span of filter bags by up to 2 years.

Roller chains with scrapers convey dust to the channel outlet from where it is conveyed directly to the silo system.

The Multiflow channel are made in lengths up to 130 meter.

Channels can be extended in future and several filters can be connected to the same channel, thus increase in exhaust capacity is implemented as an "add-on" and no modification to existing equipment is required.





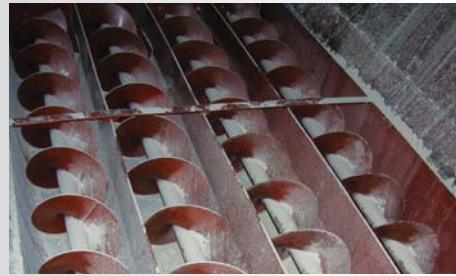
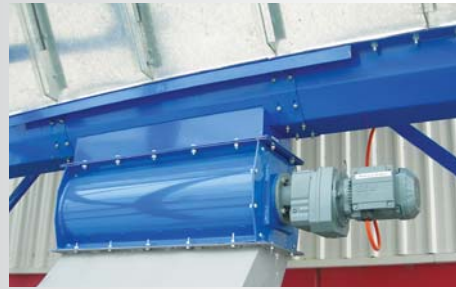


# Material storage

Blue-vent manufacture and supply silo systems for storage of waste material from the wood processing industry.

Silo systems are supplied with out feeding to boiler systems, briquetting plants or for simpler unloading into bags or to trucks. Special dust free bevels are available for unloading of very fine dust.

Blue-vent design complete pneumatic chain or screw conveyor systems for materials such as: Solid wood shavings, sanding dust and MDF fibres.





# Shredding & Briquetting

Blue-vent supply complete plants for material crushing. Plants include chippers, shredders, hammer mills and guillotine plants.

The equipment is able to break down long trimmings, off cut blocks, boards and pallets. The systems are supplied with metal separators, so that chips or dust can be used to fire boilers or to convert to briquettes.

We supply complete raw material handling, with pneumatic or belt conveying of chips and dust to silo.



Mechanical briquetting presses from Blue-vent are high volume plants with production volumes of 500 - 1,800 kg/h. Converting saw dust to briquettes, makes handling of waste material easier and cleaner. Besides reducing pollution problems at site, the requirement for silo storage space is reduced to a minimum, as dust is compacted continuously. Presses are suitable for producing briquettes from solid wood dust as well as from MDF or chip board dust. Briquettes are sold of as environment friendly fuel for boiler systems.



Our complete system supply include dust handling and storage, as well as handling of briquettes. Plants are delivered with integrated control system.

The cost of pressing dust to briquettes is approx. \$10 per ton.





# References

For the past 10 years Blue-vent has supplied turn-key filter and exhaust systems mainly to the woodworking, furniture and panel board industry.

With more than 200 systems installed Blue-vent is one of the most reputable suppliers of dust collector systems for the wood based industry.

The factory installations supplied by Blue-vent range from 60,000 m<sup>3</sup>/h to 2.4 mil. m<sup>3</sup>/h.

A major part of the systems are supplied as turn-key projects.

Many of our customers are repeat customers who has purchased the first system several years ago and installed expansions with regular intervals since.

## Panelboard industry

## Woodworking and Furniture industries



*Oppein - China*



*Woodworth - Indonesia*



*Ashley - USA*



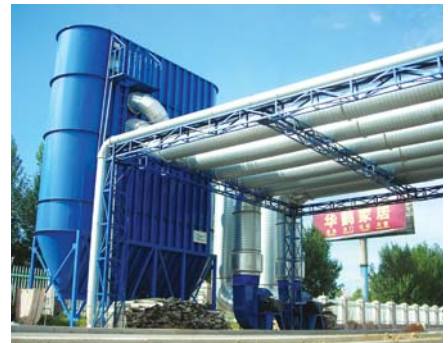
*Natuzzi - Italy*



*Zhong Xing - China*



*Kaiser - Vietnam*



*Sinocrane - China*



*Borg Panels - Australia*



*Red Apple - China*



*Scansia Pacific - Vietnam*



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