

1. THE TECHNICAL SOLUTION FOR YOUR PROJECT

Following Your mail, we studied the best economical-technical solution to meet Your needs. Thanks to our experience and following the current legislations, we propose You the following filtering system:

1.1. Project info

- ✓ **Nr. 1 PC 04TVXH with accessories and piping**
- ✓ **Nr. 1 PC 08TVS with accessories and piping**

2. Pulsatron Compact 04 TVXH

2.1. Mode of operation

Polluted air enters the filter through a pre-chamber which enables separation of coarser particles; the flow then passes through the high performing conical cartridges, depositing the contaminants outside, while clean air is discharged through filter head. An electronic cycle provides for cartridge sequential cleaning with compressed air. The wide filtering surface of each cartridge allows a reduced volume of the equipment, and this means that Pulsatron Compact® filters, unlike traditional bag filters, can be installed indoor, near pollution sources.

2.2. Added values

- ✓ Optimizing the production cycle
- ✓ Better working places
- ✓ Consumptions optimization
- ✓ Energy saving
- ✓ Reduction of the management costs



2.3. Technical description

Made of carbon steel P11, CE marked and certified. **The unit consist mainly of:**

- ✓ **Central casing** in bolted panels. sheet execution, properly stiffened with a set of flanged inlets, top & bottom flanges in order to fix to the clean air plenum and to the hopper/transition.
- ✓ **Pre-collecting chamber** obtained in the central casing in order to pre-collect the heaviest particles also designed to obtain the best fluid dynamic conditions and to avoid direct impact of the dust on the bags
- ✓ **Truncated pyramid hopper** reception in welded steel sheet and properly reinforced with bolted inspection doors, bracket base with shelves to support the structure
- ✓ **Support structure filter** made of robust carbon steel P11 adequately braced to support filter and anchoring ground, complete with supporting plates and rods
- ✓ **Nr. 4 conical Cartridges Ø 325mm x 600 mm length, made of cellulose**
- ✓ Pullers and knobs for mounting the cartridges
- ✓ Compressed air cleaning system, complete with bolted inspection doors
- ✓ **Cyclic timer** for the automatic control of the cleaning compressed air electrovalves in on-line mode.



| PC04/TVXH | Technical data |
|-------------------------------------|--|
| Air flow | 4.000 m ³ /h |
| Total pressure | 2.100 Pa |
| Power installed | 4 kW |
| Number of cartridges and dimensions | 4 cartridges 10 m ² , Ø325 - H600 |
| Total filtering surface | 40 m ² |
| Filter material | Cellulose, code C014 |
| EV for cleaning system | 4 electrovalves 3/4" voltage 24/50 V |
| dBa | 86 dBa |
| Ral | 7035 (body) + 5012 (door) |
| Dimensions and weight | Please see attached drawing |



- ✓ **FAN integrated in the filter body:** The blower group is composed of robust fans coupled to quality and **IE3** high-performance engines. Appropriate accessories ensure low vibration and low noise. The system is designed to get the best combination of performance and efficiency in compliance with Regulation 327/2011 laying down detailed rules for the implementation of the directive **ErP (Energy-related-Products) 2009/125/CE**. All fans installed based on our current state of technology and comply with the requirements for safety and health at the base of the EEC Machinery Directive.



| Motor integrated | Technical data |
|---------------------|----------------|
| Class of efficiency | IE3 |
| Voltage | 400 V |
| Frequency | 50 Hz |
| Type | B5 |

PRE-SEPARATING CYCLONES




Pre-Filter HORIZONTAL CYCLONIC SEPARATOR, mod. SEPAØ450 Made of P11 carbon steel, CE marked and certified. The Horizontal Cyclonic Separator produces the separation of the powders by inertial effect; it forces the air flow to be dedusted to a helical movement, on itself, inside a conical chamber. The air moved by a fan enters on one side where it is forced into a circular motion between two concentric walls. A swirling motion of the air is therefore created inside the cyclone. The solid dust particles are pushed by centrifugal action against the internal walls of the cylinder body. Gradually, and continuously, they descend to the cyclone discharge to fall inside the bin. The pressure drop in these cyclones varies between 60 and 140 mm H2O.



2.4. Optional



✓ **DP-LED** Cyclic Timer with integrated DP control. The cyclic controls up to 20 EV. On the filter is installed a 3-color LED strip green, yellow, red. The strip is mounted on the front of the filter and allows the operator to have a clear view of the clogging state of the cartridges.

| DP-LED | | Technical data | |
|-------------------|---|------------------------------|------------------------------|
| GREEN LED |  | Normal operating status | 0-80 mm h ₂ O |
| YELLOW LED |  | Pre-alarm status | 81-130 mm h ₂ O |
| RED LED |  | Status of clogged cartridges | from 130 mm h ₂ O |

✓ **INTEGRATED ABSOLUTE FINAL FILTER** In filter carpentry integrated absolute final filter Efficiency class for the standard version: H12. Compact sizes. It is possible to have versions with filtering grade H13 and H14. Module for 4 cartridges

✓ **SILENCER fittings** dimensioned to ensure the minimum noise emission.



✓ **ELECTRIC CONTROL PANEL WITH INVERTER**

Electrical power and control with degree not less than IP55 protection, closing by bolting triangular or hexagonal. Main switch, buttons for the main and auxiliary components drives. Lamps / warning lights front panel and emergency buttons. Input for external emergency and provision for remote start and stop. Complete of:

| Electric board PS000-REM | Technical data |
|--------------------------|----------------|
| Voltage | 400 V |
| Frequency | 50 Hz |
| Power installed | 4 kW |
| Inverter | YES |



MORE THAN A SUPPLIER.

✓ **SUCTION LINE**

Suction line in galvanized steel of suitable thickness, composed of pipes, bends and fittings dimensioned to ensure the maximum performance of airflow, suction and robustness. All components are connected with flanges and gaskets suitably bolted and fixed. The system is designed to reduce the abrasion and to guarantee a low circuit load loss



3. Pulsatron Compact 08 TVS

3.1. Mode of operation

Polluted air enters the filter through a pre-chamber which enables separation of coarser particles; the flow then passes through the high performing conical cartridges, depositing the contaminants outside, while clean air is discharged through filter head. An electronic cycle provides for cartridge sequential cleaning with compressed air. The wide filtering surface of each cartridge allows a reduced volume of the equipment, and this means that Pulsatron Compact® filters, unlike traditional bag filters, can be installed indoor, near pollution sources.

3.2. Added values

- ✓ Optimizing the production cycle
- ✓ Better working places
- ✓ Consumptions optimization
- ✓ Energy saving
- ✓ Reduction of the management costs



3.3. Technical description

Made of carbon steel P11, CE marked and certified. **The unit consist mainly of:**

- ✓ **Central casing** in bolted panels. sheet execution, properly stiffened with a set of flanged inlets, top & bottom flanges in order to fix to the clean air plenum and to the hopper/transition.
- ✓ **Pre-collecting chamber** obtained in the central casing in order to pre-collect the heaviest particles also designed to obtain the best fluid dynamic conditions and to avoid direct impact of the dust on the bags
- ✓ **Truncated pyramid hopper** reception in welded steel sheet and properly reinforced with bolted inspection doors, bracket base with shelves to support the structure
- ✓ **Support structure filter** made of robust carbon steel P11 adequately braced to support filter and anchoring ground, complete with supporting plates and rods
- ✓ **Nr. 8 conical Cartridges Ø 325mm x 600 mm length, made of cellulose**
- ✓ Pullers and knobs for mounting the cartridges
- ✓ Compressed air cleaning system, complete with bolted inspection doors
- ✓ **Cyclic timer** for the automatic control of the cleaning compressed air electrovalves in on-line mode.



| PC08/TVS | Technical data |
|-------------------------------------|--|
| Air flow | 8.000 m ³ /h |
| Total pressure | 2.650 Pa |
| Power installed | 7,5 kW |
| Number of cartridges and dimensions | 8 cartridges 10 m ² , Ø325 - H600 |
| Total filtering surface | 80 m ² |
| Filter material | Cellulose, code C014 |
| EV for cleaning system | 8 electrovalves ¾" voltage 24/50 V |
| dBa | 86 dBa |
| Ral | 7035 (body) + 5012 (door) |
| Dimensions and weight | Please see attached drawing |



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| Motor integrated | Technical data |
|---------------------|----------------|
| Class of efficiency | IE3 |
| Voltage | 400 V |
| Frequency | 50 Hz |
| Type | B5 |

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|-------------------|---|------------------------------|------------------------------|
| GREEN LED |  | Normal operating status | 0-80 mm h ₂ O |
| YELLOW LED |  | Pre-alarm status | 81-130 mm h ₂ O |
| RED LED |  | Status of clogged cartridges | from 130 mm h ₂ O |

✓ **INTEGRATED ABSOLUTE FINAL FILTER** In filter carpentry integrated absolute final filter Efficiency class for the standard version: H12. Compact sizes. It is possible to have versions with filtering grade H13 and H14. Module for 4 cartridges

✓ **SILENCER fittings** dimensioned to ensure the minimum noise emission.



✓ **ELECTRIC CONTROL PANEL WITH INVERTER**

Electrical power and control with degree not less than IP55 protection, closing by bolting triangular or hexagonal. Main switch, buttons for the main and auxiliary components drives. Lamps / warning lights front panel and emergency buttons. Input for external emergency and provision for remote start and stop. Complete of:

| Electric board PS000-REM | Technical data |
|--------------------------|----------------|
| Voltage | 400 V |
| Frequency | 50 Hz |
| Power installed | 5,5 kW |
| Inverter | YES |



✓ **SUCTION LINE**

Suction line in galvanized steel of suitable thickness, composed of pipes, bends and fittings dimensioned to ensure the maximum performance of airflow, suction and robustness. All components are connected with flanges and gaskets suitably bolted and fixed. The system is designed to reduce the abrasion and to guarantee a low circuit load loss



3.5. References and guarantees

| Regulations | |
|-------------|--|
| 2006/42/UE | Machinery Directive CE |
| 2014/30/UE | Electromagnetic compatibility Directive - EMC |
| 2014/35/UE | Low Voltage Directive - LVD |
| EN 60204-1 | Safety of machinery - Electrical equipment of machines |
| 2009/125/UE | ErP (Energy-related-Products) |

Mechanical and functional guarantees

We guarantee that the materials and equipment to be supplied will be performed in a workmanlike manner and according to the latest technological standards (CE).

All materials will be of the best European brands.

FILTERS: We guarantee the supplied materials for a period of 24 months from delivery date, exception made for spare parts and consumables. Any material under warranty will be supplied according to FCA Inconterms at HF Headquarter in Legnano.

3.6. Exclusions

- ✓ Civil works
- ✓ Transport
- ✓ Electrical wiring
- ✓ Control Analysis and authorisations
- ✓ Spare parts
- ✓ Anything not clearly described in the present offer

