

## TECHNICAL ENCLOSURE

### AIR CLEANER WITH ACTIVE CARBON

The absorption system consists of the following sections:

**METAL FRAME:** it is entirely made of galvanized sheet steel panelling preset for fixing by means of screws. The frame is preset as to contain the filter, the absorption and the fan sections, i.e.:

**PRE-FILTER SECTION:** it is the lower module of the unit; it carries out the pre-filtering of the air being sucked from the polluted discharged agent. The section consists of a set of filtering cells (varying according to the type of absorber).

The cells are made of a filter panel self-extinguishing synthetic fibre (second layer) **FA 280** with a high absorption capability of solid particles and of a layer (first layer) flame-proof **FIBRE GLASS** primary filter. These filters have a low load loss and can be easily replaced when fully exhausted.

The filters are contained in container of **CELLULOSE**, duly placed on guide rails along the air flow section. The large dimensioned filtering surface guarantees both a perfect filtering and a long life of the filters.

The filtering cells are disposable (**N.2 LAYER OF FILTER, CELLS FOR AIR CLEANER AND N.3 LAYER OF FILTER FOR DRY EXTRACTION UNIT**). **Into the active carbons air cleaner, besides the 2 layers of filter cells, a large dimensioned (0,85 sq.mt. each) filtering sleeve is inserted into each cartridge, which is made of self-extinguishing fibre glass FA 200 with a high absorption capability.**

The lower pre-filter module is provided with buffers which make it possible to inspect and check the filter clogging.

#### THE ADSORPTION SOLVENTS SYSTEM IS COMPOSED OF:

**SOLVENT ABSORBING UNIT:** is the intermediate module and absorbing part of existing vaporized solvents and acids in the mixture to be treated.

The section consists of a certain quantity of cartridges containing type **AC 40** active carbon, the quantity of cartridges varying according to type of absorber. Said cartridges have to be duly placed in order to guarantee the peak efficiency as for the absorption capacity and the maximum life of the carbons themselves.

The special shape of the cartridges along with the air speed parameters have made it possible to eliminate any preferential flow through the layer, thus obtaining an even distribution of the flow on the absorption layer.

**FAN SECTION:** it is the upper module of the unit downstream the whole system for the realization of the ideal conditions to work in depression.

The special size of the fan section makes it possible to overcome any crossover loss of pressure, this giving definite head values to the sucked air. The ventilation assembly is made up of a single **centrifugal** fan or combined in a double suction system with a blade rotor in the front "**SERIES AT**", coupled to a three-phase electric motor by pulleys and trapezoidal belts to decrease the number of revolutions (**REDUCED REVOLUTION NUMBER = LESS NOISE**)

The motor is a closed type and assembled outside the air flow circuit, in accordance with the safety rules with **IP 55** protection.

### **EXAMPLE**

#### Technical features Air cleaner WITH / WITHOUT ACTIVE CARBONS MOD. ECO-1,5 EURO 2001

- intake air flow with **250 Pa** : m<sup>3</sup>/h **24.000 adjustable 10.000 - 24.000**
- installed wattage : kw **7,5 (n.1 motor + n. 1 double fan)**

#### **"OPTIONAL" ONLY FOR AIR CLEANER WITH ACTIVE CARBONS**

- active carbon : kg. **130**
- cartridges : no. **8**
- active carbon bed area : m<sup>2</sup> **7,91**
- active carbon bed thickness : mm **40**
- pre-filters area (cells GLASS + FA 280 n.16) : m<sup>2</sup> **4**
- pre-filters area (FA 200 n.8x0,85 cad.) : m<sup>2</sup> **6,8**

- Using the filter (n. 8/10) we have an area filter of nr.1 filter 0,85 m<sup>2</sup> x n.8/10 = m<sup>2</sup> 6,8 / 8,5
- The crossing air speedy of filter is (quantity of air cu.m/h) 24.000 : 3600 : m<sup>2</sup> 6,8 / 8,5 = 0,98 / 0,78 mt./sec.

#### Filter diameter 280x1.000 (H) mm

Active carbon (**OPTIONAL**) : Kg **130** having specific weight (density) equal to **430 - 450 kg/m<sup>3</sup>** and classification **AC 40** vibrated and set-down.

