

CENTRAL VACUUM CLEANING SYSTEM

Definition.

Central vacuum cleaning system plants are high vacuum pneumatic systems for dust suction. Dust is suctioned through a complete ducting circuit with several suction points by means of a central plant that comprises a bag filter, a hermetic valve, and a root. By connecting a hose to any suction point we can easily remove dust from the floor, corners, machines, etc.

Improvement, objectives.

Any industry may produce dust areas that imply even daily cleaning works. This cleaning system minimizes human resources and time spared for such purpose and with a better result.

Central vacuum cleaning plants could be included in preventive maintenance works, because cleaning the working zone avoids risks derived from dirt. Therefore, the aim of this type of plant is the clean maintenance of a working area as large as desired, so achieving:

- No risk of accidents.
- No unexpected failures in machines.
- No potential contamination and rejections in final product.
- The use of this cleaning system is especially important in atmospheres with dust under ATEX norms (see further sections).



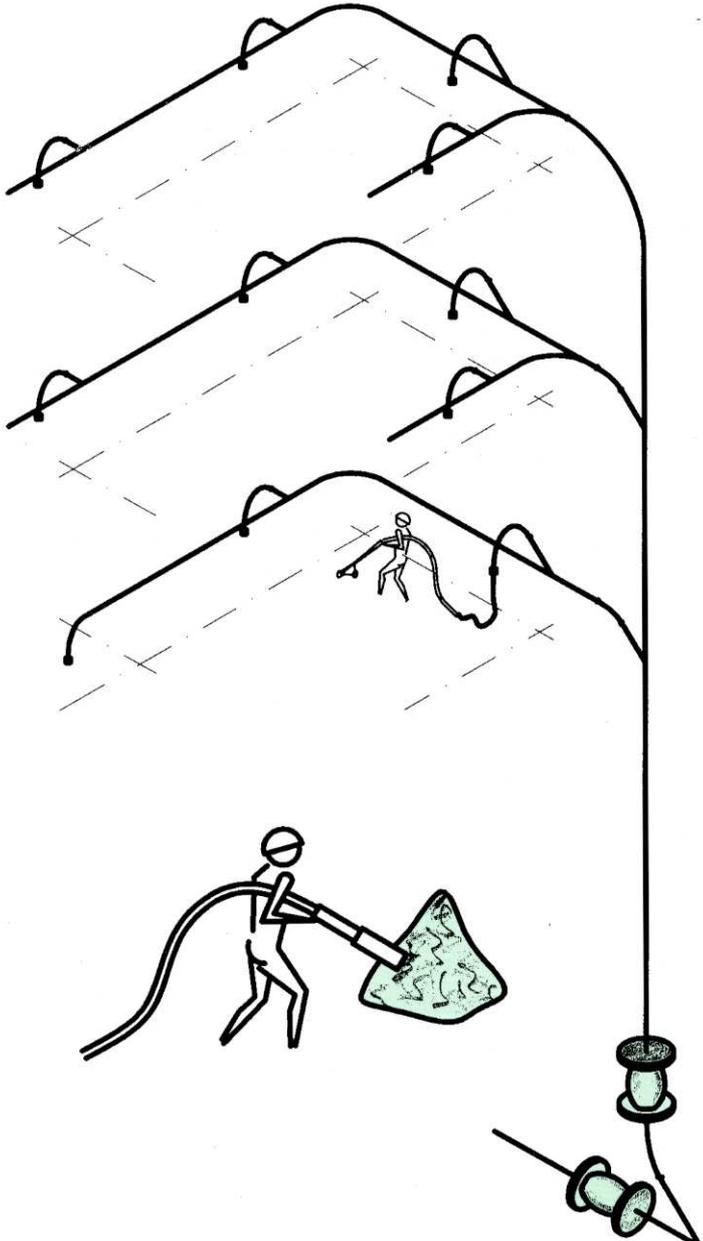
Operation.

Central vacuum cleaning plants basically consist of a root, a cyclonic filter and a ducting.

The root generates a high vacuum inside the ducting along the plant. This ducting has several suction points so that, whenever we want to sweep one determined zone, we just have to connect the hose to the nearest suction point.

Previous to the root operates the high performance cyclonic bag filter, prepared to filter large dust concentrations of 5,000 g/m³ and more. This filter separates air and dust, and the latter falls to whatever disposition: big-bag, return to circuit, silo, etc.

Such discharge of the dust collected in the filter is made through an air-tight valve to avoid parasitic suction of the air upwards. This tightness is very important. GORCO normally uses double clap motorized valves with intermediate container.



suction point



suction hoses



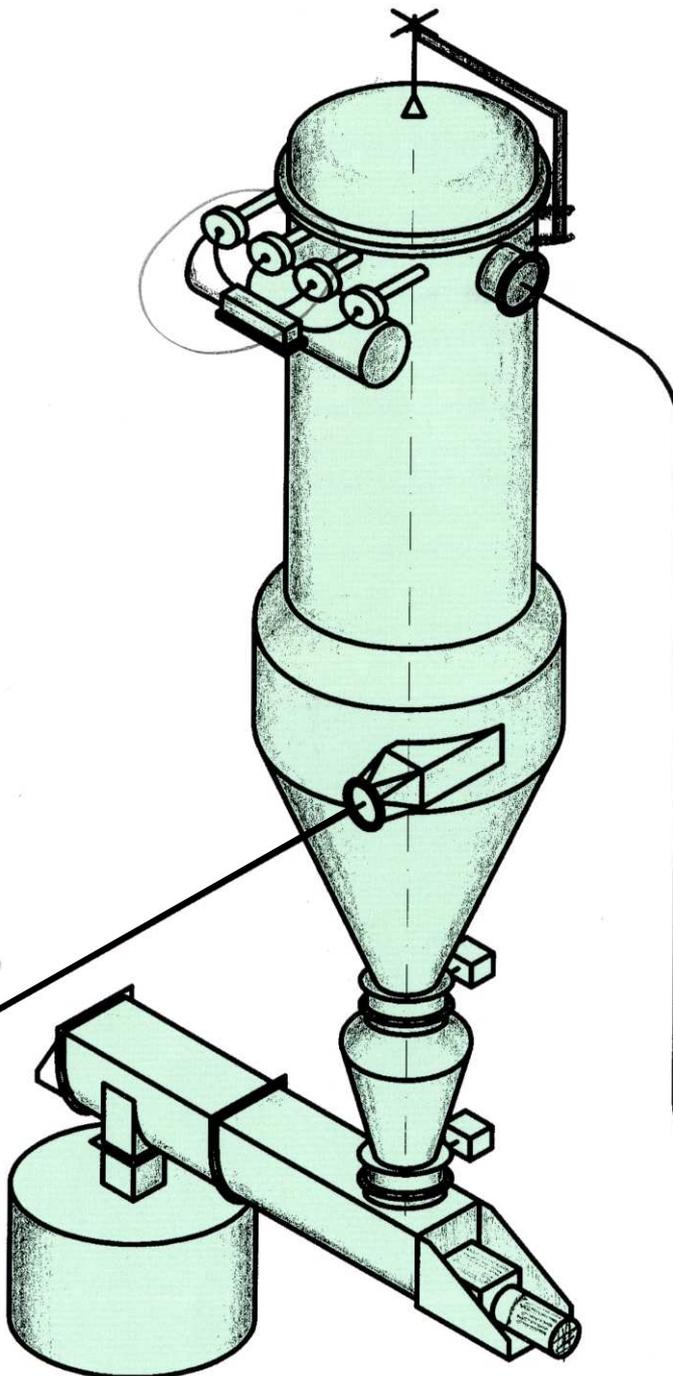
selection valves



filter cover



cyclonic filter inlet



double clap valve

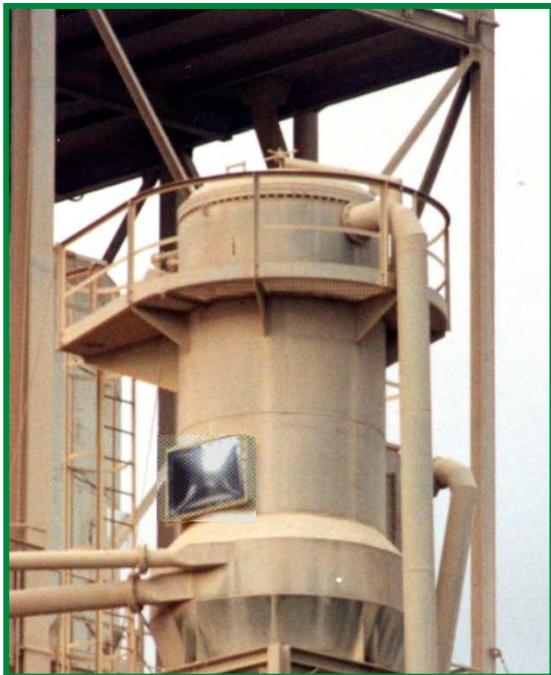
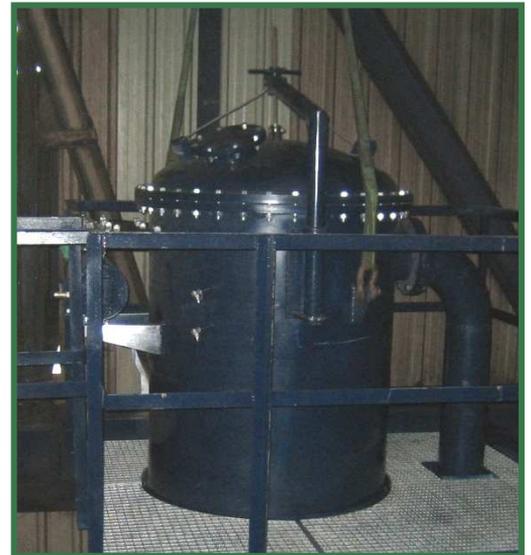


root with insonorization cabinet

Applications.

Central vacuum cleaning plants can be used in any part of a plant: production, mechanization, transfers, elevators, etc., that is: in any place favourable to produce dust for any reason: air drafts, overpressure, etc.

All industries managing bulk solids may need this cleaning system; for instance: cement, arid, wood, metal, chemicals, alimentary industry and so on.



ATEX.

ATEX plants deserve a special mention.

Because of the risk of explosion of some dusts, the cleaning of such plants becomes of high importance. To the advantages of keeping the plant clean, we have to add the elimination of the risk of explosion due to dust accumulation.

These plants have some elements that make them different to the standard plants: ATEX certificates, resistance to pressures up to 10 bars, rupture disks, electrical devices classified for zones 21 of 22, ATEX certified roots, etc.

It is important to point out that the use of central vacuum cleaning plants may derive in favourable modifications in the classification of ATEX zones and the consequent saving in equipment.

GORCO proposal.

According to the needs of each client, GORCO makes the study, design, dimensioning, manufacturing and supply of the complete equipment for the correct operation of the cleaning plant.

We can offer turn-key plants, including mechanical and electrical assembly, start-up and training.

Please request information and quotations without obligation.

Other GORCO leaflets at your disposal:

- G-16 Quarries
- G-17 Bag filters – Pneumatically conveying
- G-18 Bag filters – Function and construction features
- G-19 Bag filters – Cleaning by compressed air Pulse-Jet IC

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