

Focus on Pharmaceutical



THE GOLD SERIES CAMTAIN® AND THE QUAD PULSE PACKAGE DUST COLLECTOR COMBINES ENHANCED PERFORMANCE, SAFE-CHANGE CAPABILITY, AND EASE OF MAINTENANCE WHILE PROTECTING THE WORKPLACE AND ENVIRONMENT FROM FUGITIVE MANUFACTURING PARTICLES.

GOLD SERIES CAMTAIN®

Gold Series Camtain is the contained dust collector solution from Camfil APC. Safe-change containment systems are available for both the filter cartridges and discharge system. The cartridge change utilizes a bag-in/bag-out (BIBO) method while the discharge uses continuous liner technology. The Gold Series can also support traditional dust collection for nuisance dusts and fumes that do not require full isolation and containment. Specially treated filter media available for repelling fine particulates and moisture for a lower pressure drop and long filter life. Filtration efficiencies up to MERV 16 per ASHRAE 52.2:2007

APPLICATIONS

Tablet presses + coating, fluid bed drying, spray drying, blending, granulation, general room ventilation.

QUAD PULSE PACKAGE SERIES

Many processes in the pharmaceutical and chemical industries produce high concentrations of hazardous dusts. Cleanable filter systems make it possible to have continuous manufacturing processes and prevent regular, expensive filter replacements. The Quad Pulse Package family cleans filters in four segments, one at a time so that they are continually cleaned without interrupting airflow. The system is available with one filter cartridge and two filter cartridges for higher air volumes. Primary filter with excellent filtration efficiency removes the majority of collected dust and prolongs the service life of the second-stage filter. Its compact design features easy installation and bag-in/bag-out (BIBO) process for the primary/secondary filters and discharge bin. HEPA filters up to H13 filtration efficiency.

APPLICATIONS

Tabletting, filling, coating, granulating, drying, mixing, blending, packaging, central vacuum.

CAMFIL APC HAS CONTAINMENT DUST COLLECTORS IN PHARMACEUTICAL APPLICATIONS IN NORTH, SOUTH AND CENTRAL AMERICA, ASIA AND EUROPE.

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1. Safety in terms of ATEX compliance (dust Kst, Pmax and MIE figures required as well as gas/solvent %LEL) and containment for toxic dusts. As well as being toxic, many of the pharma dusts being generated by production processes are also highly explosive, especially when combined with gases or solvents to produce hybrid mixtures. It is therefore essential to follow the NFPA (U.S) and ATEX (European) legislation for existing and planned new installations. Each dust must be evaluated to determine the Kst, Pmax and MIE value and the %LEL for gases/solvents. Only then can the appropriate safety solutions be applied to the dust collector and ducting.

2. Speed and ease of maintenance. With an increasing emphasis on production efficiency, pharmaceutical production plants attempt to keep 'down-time' to a minimum. The speed and ease of a dust collector filter change is therefore a critical cost saving factor.

3. Compact dust collectors to fit within plant rooms often with space constraints. The Camtain and QPP have a compact modular design which is essential for plant rooms where space constraints are often encountered. In these instances, the large filter surface area of the Camfil APC filter cartridges provides a significant operational benefit compared with the competition.

4. The ability to supply the complete filter package, with filter products for a wide range of applications (many of our prospective APC customers already use Camfil APC HVAC / HEPA filters). Camfil APC is in a unique position, having the ability to supply market leading air filtration products for a wide range of applications in the pharmaceutical manufacturing environment. Our filter products are renowned for their quality and filtration performance.

5. Energy efficiency – energy cost savings from Hemipleat benefits and energy saving components such as VSD's and high efficiency motors. With energy costs rising, Camfil APC understand the importance of providing air filtration solutions that deliver cost savings wherever possible. The excellent dust release capabilities of the Hemipleat and Durapleat filters helps to reduce the compressed air cleaning demand. Combine this with the latest energy saving devices such as variable speed drives, then you have the most energy efficient dust collector on the market.

6. Dealing with a reliable, customer focused supplier. Camfil APC is a strong and stable business that develops long-lasting working relationships with customers. These relationships are built on trust and reliability in terms of our people and our products. We value our customer's investment in us and our customers know their investment is safe.



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Cross Contamination is one of the highest risks for patients using pharmaceutical products.

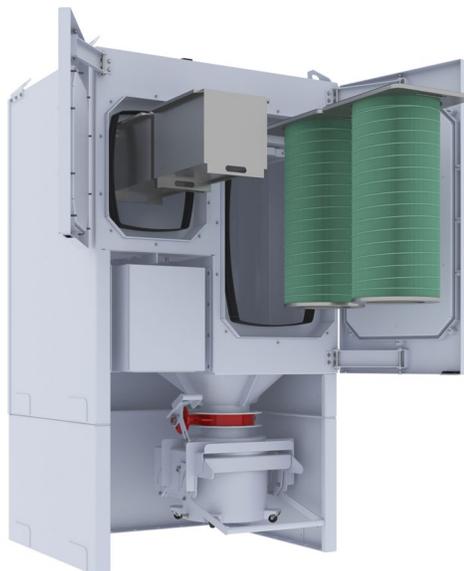
Not only the presence of small amounts of antibiotics or other highly potent compounds in medicines can cause severe damage but also carryover of products into another pharmaceutical product is of high risk to the patient. Cross contamination due to improper design and maintenance of equipment is one of the key focus areas of the Food and Drug Administration (FDA). The use of closed or contained equipment, with fully documented procedures, is a primary method for reducing the risk of cross contamination and keeping your facility compliant to the FDA's current Good Manufacturing Practices (cGMP). Camfil APC provides contained dust collection systems that provide a physical barrier between the product and the environment which significantly reduces the risk for cross contamination when used in conjunction with proper operating procedures.



Gold Series Camtain® skid package



Quad Pulse Package II



Gold Series Camtain®

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Two Gold Series Camtain® GSC6 models on a pharmaceutical application in Guayama, P.R

SAFETY AND HEALTH CONSIDERATIONS

Two key concerns are the focus when handling pharmaceutical dusts - the potent, toxic or allergenic properties of the compound as it relates to personnel exposure and the explosion properties of the compound.

The first issue involves understanding the toxicological properties of the material, reviewing the Occupational Exposure Limit (OEL) and performing a risk based exposure evaluation to determine the methods for proper control. In most cases, some level of isolation and containment is required due to the fact that the pharmaceutical dust is extremely potent while being captured in a non-production area and cannot be released into the surrounding environment. In most cases, Camfil APC recommends a HEPA secondary safety system. With HEPA systems after the dust collector, recirculation of the filtered air back into the HVAC system is an option. This can significantly reduce energy costs while providing the necessary level of filtration for discharge air required by OSHA/EPA.

The second concern involves deflagration and explosion potential. Control measures such as explosion venting, chemical suppression and isolation systems may be required depending on the physical characteristics of the dust relating to Kst, Minimum Ignition Energy (MIE) and the location of the collector. When explosion vents are required, they must be vented to the outside by either placing the

collector outdoors or ducting the vent exhaust to a safe location at a specified distance through the building structure. Camfil APC recommends an independent PE specify what explosion protection is required for a given material as it relates to standards in NFPA, ATEX and the insurance carriers.



HEMI PLEAT® FILTERS WILL IMPROVE THE PERFORMANCE OF ANY CARTRIDGE DUST COLLECTOR. GUARANTEED.

Power up your dust collector with HemiPleat. With lower pressure drop HemiPleat filters, you can pull more air with less energy, thus capturing pollutants better. Filtration efficiencies up to MERV 16 per ASHRAE 52.2:2007.

The patented Gold Cone X-Flo filter has allowed many facilities to reduce the number of filters they have to use and change. The innovative cone of filter media expands the usable area of the filter, reducing the required number of filters by at least a third. The design also promotes long filter life with low pressure drop.