

INDIVIDUAL AIR CLEANERS/DUST COLLECTORS VS. CENTRAL SYSTEMS

ITEM	INDIVIDUAL AIR CLEANERS/ DUST COLLECTORS	CENTRAL SYSTEM
FLEXIBILITY	Maximum degree of flexibility. Operating equipment can be put into service, taken out of service, moved, etc. without affecting other equipment.	Minimum degree of flexibility for future equipment changes; the ductwork is tailor-made for the job, and permanent.
ENGINEERING	Design calculations are simple and can be done locally on-the-spot.	Design calculations are more time consuming. Layout of system must be in complete detail with all obstructions cleared and lengths of runs accurately determined.
RELIABILITY	Any malfunction affects only the machine to which the air cleaner or dust collector is connected.	A malfunction puts entire system and all equipment being collected out of service. The complexity of the ducting network adds additional opportunity for failure, such as erosion at elbows, plugging of ductwork, & improper balance of airflow.
TROUBLE SHOOTING	Trouble shooting is simple because the equipment is smaller and problems are inherently isolated.	More difficult due to size of equipment and complexity of the system.
MAINTENANCE	An individual unit is more likely to benefit from operator interest and attention, since it is likely to be close to the operator's machine. The operator will care about its performance and will notice any change in performance.	Central systems normally become the responsibility of central maintenance, whose first priority is the production equipment. Problems may not be identified before a failure occurs, thus resulting in lost production.
SPACE	Individual units require a greater plan area, but in several pieces. They require less head room, and little, if any, overhead space is lost due to ductwork.	A central system may require less plan area, but it must be all in one piece. It requires more head room, and more overhead space is lost to ductwork.

	INDIVIDUAL AIR CLEANERS/	
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ITEM	DUST COLLECTORS	CENTRAL SYSTEM
RECIRCULATION	When cleaned air is recirculated, return ductwork is rarely required.	When cleaned air is recirculated, return ductwork may be required to diffuse the air, even if the collector is inside the building. Failure of one filter in a central system collector negates recirculation of entire air volume until the failed filter is located and replaced.
CASH OUTLAY	Often can be minimized because individual units can be purchased one or several at a time to spread out costs. May be able to buy under dept. budget.	Normally, one large capital outlay is required. Needs major corporate budget approval.
DUCTWORK COST	Minimal, since only hoods and short ducts are needed.	Higher. Generally custom made by outside contractor.
INSTALLATION COST	Minimal. Portable units are rolled in and plugged in, or easily hung. Can often be done by plant personnel.	Higher. Outside contractor is normally required. May require off-hours to install, so as not to be disruptive to production.
POWER COST	Minimum horsepower means minimum power cost. Also, some units are shut down when not in use, saving additional power.	Higher horsepower is required to pull the air through the central ductwork system. Also, the whole system has to run all the time, even though part of the machinery is not running.
TIMING	Quicker. Individual units often can be shipped in a week to 10 days, and be up and running.	Slower. May take one to three months for equipment to be shipped, ductwork to be fabricated, and installation to be completed.