

## **Technical Specification TENKAY MARK IV C&D DUST COLLECTORS**

The collector(s) shall be an aspirated cartridge, continuously operating, self-cleaning type. Construction shall be of minimum 11 & 12 gage steel. Major sections shall be welded construction. Bolted construction shall not be used, favoring welded design to reduce possibility of leakage. The collector consists of a bin vent section and a hopper section with support legs. The design of these sections shall be as follows.

Bin Vent shall contain the cartridge elements, reverse pulse cleaning system, clean air plenum and cartridge removal/replacement and sealing hardware. The bin vent shall have an inlet plenum box on the side. This plenum box shall contain an internal baffle and have a side inlet opening and an optional top inlet. The plenum box will be designed to provide low inlet velocities and thus maximum fall out of particles down into the hopper section as they strike the baffle. The optional inlet opening allows the installer flexibility in that the inlet duct can come from straight down or from the side. A bolted blind off plate will be supplied to cover the unused inlet.

Cartridges shall be installed vertically, and removed by sliding on tracks accessible by doors. Doors shall be reinforced by welded channels, and utilize a floating hinge with equibearing clamps to provide uniform pressure. Doors shall have neoprene. Cartridges shall be self positioning and an entire row shall be locked and sealed in place by means of tracks which are cam locking bars with handles at the door end to easily lock/unlock the cartridges into place.

Cartridges shall be of non-woven, synthetic (polyester) and cellulose media. Media shall have a minimum of 10% of polyester for strength and resistance to swelling in the presence of moisture/humidity. Media shall be corrugated into pleated cylinder design and bonded steel header plates at the top and bottom. Top header plate shall be rectangular so it is easily slid in/out on the cam bar tracks. The rectangular plate shall have metal tabs so that cartridges cannot accidentally be slid on top of each other. The gasket on top of the rectangular plate shall be a continuous, neoprene or silicone gasket. Split gaskets are not acceptable. Gasket shall not be directly exposed to the dirty air stream. Only one gasket per cartridge shall be used. Sealing and contact of cartridges shall be verified by line of sight viewing.

There shall be a helical cord retainer on the outside of the cartridge to retain shape during back pulsing. This cord retains the cartridge shape and pleat spacing yet allows as much media to be open as possible. External metal screens and perforated metal are not acceptable as they block off media, and potentially may cause particulate to plug between screen and media. If screens and perforated metal are used, they must be internal to the cartridge.

For cellulose/polyester cartridges, each cartridge shall have a minimum of 300 ft<sup>2</sup> of media. Pleat depth shall not exceed 2" in depth. Unit shall have a total filter media area \_\_\_\_\_ft<sup>2</sup> as a minimum.

The pulse cleaning system shall include the eductor tubes, blow pipes, internal piping, compressed air header, solenoid valves, diaphragm valves. Only one cartridge shall be cleaned per tube sheet opening. Eductor tubes shall be used, rather than venturis, for lower pressure drop. Compressed air will be supplied at 90-105 psig. Air will be clean, dry and oil free.

The clean air plenum shall have a top outlet designed for direct mounting a flanged, direct drive fan. The clean air plenum shall also have another outlet on the side for additional flexibility if a remote fan is used. The unused outlet will be covered with a blind off plate and will serve as an inspection port for the clean side. Welded lifting lugs shall be provided.

Unit shall be available with a resettable Brixton latch type explosion vent(s) on the side of the collector should conditions require use of an explosion vent(s).

The hopper section shall contain the hopper(s) and integral fabricated support legs. Hopper(s) shall accommodate 55 gallon drums via a transition, flex connector, slide gate (for isolation) and drum cover. For small air flow and dust load applications a 5 gallon pail shall be available rather than 55 gallon drums. Hopper discharge shall be designed to handle the mounting of a rotary air lock should this be required. Hopper wall angle shall be sufficient to prevent dust build up and bridging.

Support legs shall be adjustable in height, to accommodate different dust discharge devices, or meet specific height clearance conditions.

Standard enclosures shall be NEMA 12 or 4, with NEMA 9 and NEMA 7 available, should application require it. Cleaning cycle controls shall be available in timer only (pulsing independent of pressure drop) or Photohelic controls where pulsing is governed via pressure switch in a Photohelic gage. For both types, pulse length and duration between pulses shall be adjustable. Control panel shall be remote mounted.

Fans shall be designed for direct mounting on top of the collector, radial wheel, direct drive, AMCA rated. Above 2HP motors shall be 1750 RPM for sound emission consideration. Motor shall be \_\_\_\_\_volt, with TEFC enclosure. Fan wheel shall be steel with optional spark resistant aluminum construction. Fan shall be sized to handle static pressure requirements of the collector and external system. A mounted damper shall be supplied with the fan for capacity control. An optional mounted fan silencer shall be available for sound considerations. Fan capacity shall be \_\_\_\_\_ CFM at \_\_\_\_\_ in static pressure.

Should recirculation of the discharge air be desired, a mounted secondary safety filter shall be supplied. Safety filters available shall be either ASHRAE 95% efficiency or Absolute/HEPA filters. Safety filters shall be mounted on the dust collector package, where practical.

The collector shall be phosphatized, painted with zinc chromate primer, and OSHA blue enamel top coat. Epoxy based topcoat shall be available for special applications.