Carter Environmental Wet curtain ATEX high pressure wet type dust collector

**Stock Code:** EZ1730R  
**Manufacturer:** Carter Environmental  
**Model:** EHA 100  
**Year of Manufacture:** 2013  
**Serial:** 600-130189  
**New or Used:** Used (Second Hand)  
**Approx Duty CFM / M³/Hr:** 6000 // 10,000 @ high pressure  
**Filter Area ft² / m²:** High surface area wet curtain water wall  
**Other Info:** ATEX units inc’ blast/fire gates  
**External Dimensions (WxDxH):** 3450 x 3050 x 3770

Carter-Midac EHA wet dust collectors are designed to cater for those applications where the amount of dust collected is not so great as to justify the provision of a motorised drag link conveyor with its complication and cost. The EHA collector is particularly suitable for the collection of potentially explosive dusts such as aluminium and magnesium and other hazardous applications.

Works by drawing the contaminated air through a linear spray generator baffle, which is designed to:

a) Generate an intense self induced spray zone.

b) Impose a series of about turns on the airflow so that the dust particles are centrifuged at high velocity onto the walls of the baffle which are continuously irrigated by the water spray.

c) Facilitate collisions between water droplets and dust particles in the spray zone.

d) Create a final water curtain through which the air must pass before leaving the baffle system.
Carter Environmental Wet curtain ATEX high pressure wet type dust collector

By these means, a very high percentage of the dust particles are trapped in the water which drains back into the bottom tank of the collector. The dust eventually settles out and accumulates at the base of the tank as a sludge prior to being manually raked up the inclined side of the bottom tank and removed from the collector when the plant ceases working.

After negotiating the baffle system, the air passes through the spray eliminators which remove entrained water droplets before air is discharged from the unit via the fan.

* Refer to sketch on Page 6 showing diagrammatic working of collector (see manual attached) *

Electronic water controls are provided to maintain the correct working level in the unit to ensure efficient collection. On explosion or fire risk applications these controls are augmented to provide additional safeguards against continuing plant operation with collector malfunction.

The electrical supply to the level controller should be taken through auxiliary contacts on the fan starter so that when the fan motor is switched off the water control equipment is also in-operative. Failure to do this could result in water spillage when the fan is switched on.

Numerous access doors provide full facilities for easy inspection and maintenance. A drain valve is fitted so that the collector may be emptied for more complete inspection and cleaning.

The fan and motor are usually mounted on top of the collector and supplied as an integral unit.

Depending on the unit size, one or more access doors are fitted at the front of the unit above the inclined edge of the bottom tank. These give access to the bottom tank and spray eliminators.

Contaminated air may be introduced into the unit at either, or both ends. Should both ends be so used, access adjacent to the unit should be provided in the ducting transformers. On the larger units a further access door is provided on the unit centre line on the back face.

Plant Information

ST1 Rated Explosion relief panel
2.0 kw emmersion heater
CEC3 Water Controller
External paint finish RAL 5015 Sky blue
Water supply connection 1"BSP

Halifax fan assembly

Type no. 24 Mistral backward inclined
Complete with belt driven 30kw motor capable of handling 10,000 CFM/Hr @ 6000 pa
30kw 415v 3ph 50hz TEFC IP55 Motor
ATEX rated zone 22 category 3D
Blue polyester based powder coating, RAL 5015
Access pane and drain socket

V-belt drive and guard

Features

The unit is enclosed in a lockable IP65 weatherproof box with clear lid and separate terminal section which contains the main adjustments for the CEC3 controller.
Carter Environmental Wet curtain ATEX high pressure wet type dust collector

The CEC3 controller is dual voltage and can operate from either a 115V or 230V supply.

Conductivity is the key operating parameter for this system and provision is made for its adjustment. Located on the front of the controller facia panel are two sensitivity adjustable controls, one for each probe. By turning these knobs in either an anti clockwise or clockwise direction the sensitivity of each probe can be increased or decreased. The level of sensitivity is set prior to despatch, however as the strength of signal between the probes and CEC3 controller is dependant on the distance between them, sensitivity may need to be increased to effect relay operation. The unit is also equipped with hysteresis adjustment potentiometers for both A and B probes. These are located under the facia plate (escutcheon) behind the translucent cover and should be adjusted in conjunction with the sensitivity knobs. Refit facia plate and covers on completion of adjustment.

Inside the controller, behind the facia plate are 4-off jumpers. These are usually factory set. However should there be initial commissioning anomalies with the controller these should be checked to ensure jumpers 1 and 3 are in the lower position and jumpers 2 and 4 in the upper position.

Jumpers 1 and 3 determine operation of the LED’s on the panel facia. When these are set in the lower positions the LED’s illuminate when water below the respective probes.

Overflow - Conversely, should there be excess water in the collector for any reason, the level will rise above the prescribed dynamic level and be discharged from the collector through the dynamic overflow pipe and the water seal located below the water control box.

WET COLLECTOR
Collector Sizes: 100 EHA
Serial No.(s): 600-130189
Air Volume: 10000m³/h

WATER CONTROLS
Quick-Fill Connection Type: Globe Valve Size: 1"
Solenoid Valve Type: ½” Voltage: 110
Drain Valve Type: BALL VALVE Size: 1.1/2"

FANSET (DIRECT DRIVE)
Type: Backward Inclined Size:
Air Volume: 10000 m³/h Air Pressure: pa
Motor Speed: 2945 rpm
Motor Power: 30kW

View Carter Environmental Wet curtain ATEX high pressure wet type dust collector on our web site at https://www.rileysurfaceworld.co.uk/machines/29663.htm

PHOTOGRAPHS TAKEN PRIOR TO REFURBISHMENT.