



Wall Mounted Industrial Recirculators

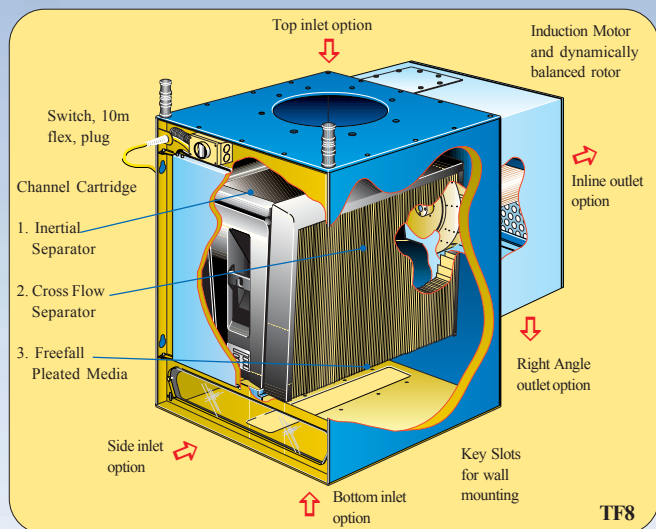
3 x TF8

These products filter and clean pollutants that are *airborne* and *dispersed* throughout the *industrial* workspace. So called "*ambient pollution*" is difficult to capture at-source. Ozone Air Recirculators are wall, ceiling or floor mounted and continuously filter and then *recirculate* clean air back into the workspace. Three different models are available for fumes/dusts, mists and gases.

Industrial Air Recirculators TF8, TM8, TG8

These three world class products set the new benchmark in industrial recirculation, thanks to several unique design features, including:

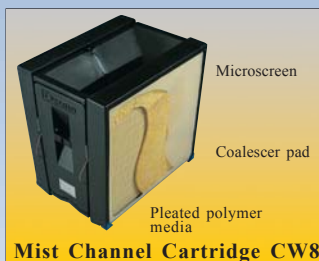
- Patented Channel Cartridge filters, for three specific pollutant types.
- Cleanable filters. Either manual, semi-automatic or fully automatic filter cleaning systems.
- Multiple inlets and outlets for tailored recirculation patterns to suit each workspace.



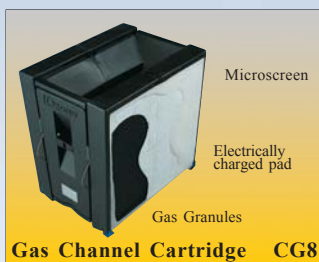
The Oztec database provides information on suitable filter choices for hundreds of airborne pollutants. Filter access is quick and easy. Simply open the hinged door and slide out the lightweight Channel Cartridge.



Model TF8 filters airborne fumes and dusts. A large 20m² of flame retardant media provides efficiencies generally greater than 99.9%. The media is cleanable, for long life operation.



Model TM8 is designed for airborne mists. The filtering process includes a 300 micron screen, special coalescing media pads and 20m² of vertically pleated polymer media.



Model TG8 filters gases and vapours. It features a microscreen, electrically charged media pads, and a massive 16kg of replaceable gas adsorption media. Six media types are available, to suit most pollutants.

Industrial Air Recirculators

When it is not practical to capture industrial pollutants "at source".



Industrial Air Recirculators are simple to mount to walls, ceilings or machinery, thanks to user friendly keyhole slots cut into the case. The electric switch can be detached and relocated to a convenient place in the work area.



Alternatively, they can have wheels added, resulting in a compact Mobile Recirculator. The photo shows how simple it is to change the filters.

The technologically advanced Channel Cartridge provides much higher overall efficiencies than traditional electrostatic precipitator type products. Importantly, they require far less maintenance and are much safer to clean and handle, with no delicate high voltage plates.

The problems with Electrostatic Precipitator (ESP) recirculators can include the following:

- Dangerous high voltages, eg 12,000 volts.
- Holding capacity less than 1kg, so plates need frequent washing in solvent.
- Plate washing requires use of toxic solvent, gloves, eye protection and personal respirators.
- Low efficiency - only 90% first pass.
- Fail with conductive pollutants, eg metal dust or water based coolants, as causes electrical shorting.
- Fail with insulative pollutants, eg wood dust, as not chargeable.
- Only work if pollutant resistance is preferably in the range of 10^7 to 10^9 ohm/cm.
- Only work if airborne concentrations are less than 0.06g/m^3 .
- Only work if pollutant size is less than 5 microns.
- Delicate plates break easily.
- Old technology being phased out worldwide.



Model TF8 can be fitted with an inbuilt filter cleaning system - either the Vibro Cleaner or fully automatic Jet Cleaner. Both combine mechanical vibration and reverse flow compressed air.



These two cleaning options dramatically reduce purchases of filter replacements or the need for service call-outs. The Jet Cleaner option is controlled by an electronic touchpad which can easily be relocated.

With Canopy

EC8

Some pollutants are emitted from a large surface. When at-source control is not possible, use of a Canopy helps contain the capture zone.

The Ozone EC8 Canopy bolts directly to the underside of the Recirculator. It is sized to result in the correct face velocities and supplied in kit-form, for simple on-site assembly.



Sometimes inlet or outlet ducting needs to be connected to a Recirculator. The photo illustrates the use of inlet ducting with a remote mounted Canopy.



Suitable, for example, for cooking oil mist which is filtered, condensed and recycled through a tube back to the fryers.

The Canopy can also be fitted to a Mobile Recirculator. This is ideal where the pollutant can be collected by "side draft" from a large source at bench level, such as a lathe, injection moulding machine or a tank.

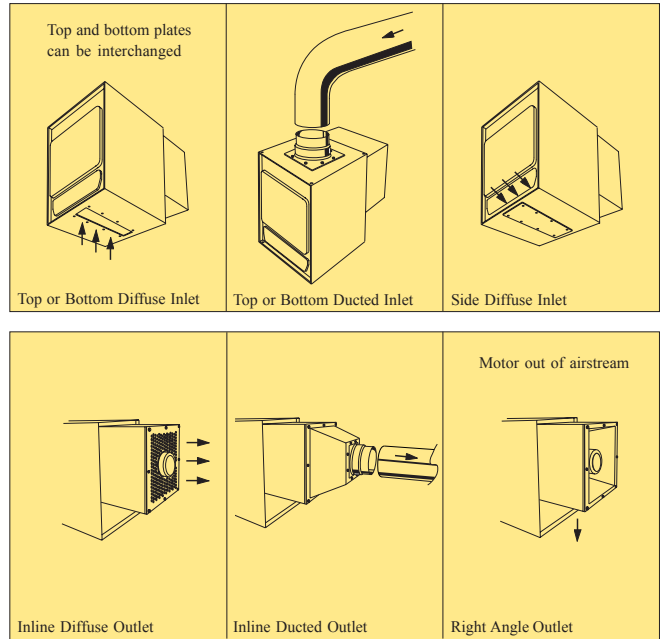


Recirculation Patterns

The two key principles of Industrial Air Recirculation are a) cover the whole workspace and b) force pollutant away from the operator's breathing zone, where possible. As each work site is unique, air recirculation patterns must be designed to suit each location. The Ozone Industrial Air Recirculator makes this possible with its patented triple flow system.

With a total of three inlet options and three outlet options, the Recirculator can be tailored to fully protect each operator's breathing zone and create the correct velocities. Conventional products simply cannot do this. They tend to have only horizontal inlets and outlets and fixed velocities, which means that the air pattern can "short circuit" and never reach the operator.

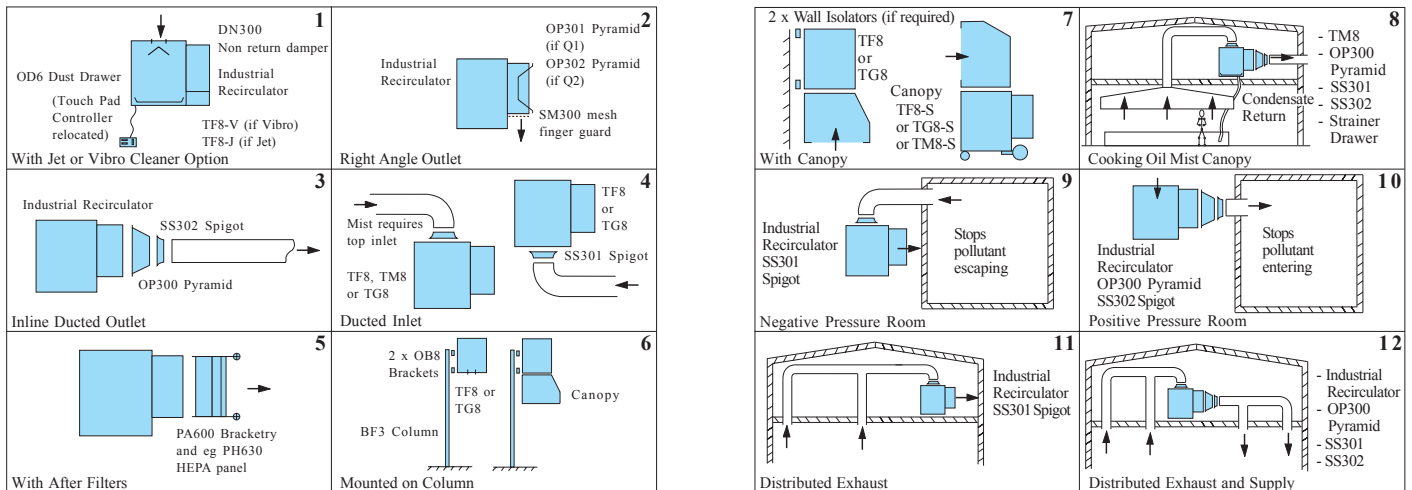
The diagram opposite illustrates the three inlet and three outlet configurations. A single product can be tailored to any of these configurations at any time. All necessary parts are supplied. The table below shows how the different inlet/outlet configurations can be chosen to suit the mounting height and to achieve the required recirculation pattern.



Application	Ambient Recirculation			With Vibro or Jet Cleaner	With Canopy
Pollutant	Fume, Dust, Gas	Fume, Dust, Mist, Gas	Fume, Dust, Mist, Gas	Fume, Dust	Fume, Dust, Gas
Codes	TF8, TG8	TF8, TM8, TG8	TF8, TM8, TG8	TF8-V, TF8-J	TF8, TG8
Wall, Column or Ceiling Mounted	If mounted at medium height (gives horizontal and vertical pattern)	If mounted at medium height (gives wide coverage in horizontal plane)	If mounted high Right angle Outlet	Top Inlet only	
Mobile or Floor Mounted	If pollutant being emitted from head height or higher	If pollutant being emitted from table height or lower	If need pattern to reach to high ceiling Right angle Outlet	Top Inlet only	

Applications, showing use of Accessories

Ozone products are shown in blue. All necessary connections are included with the products so they simply bolt together. The "words" in each box fully describe the set of Ozone products to be ordered for a complete system. See Accessories section for codes.



Data Table

Recirculator Code →		TF8	TM8	TG8
Type		Fume/Dust	Mist	Gas
Particulate Media area , main filter only (m ²)		20	20	-
Gas filter (kg) - media type MG1 as standard		-	-	16
Pre-Filter media area (m ²)		-	1.4	1.4
Rated flow, clean filters, largest extractor option (l/s)		1000	700	500
Sound Pressure Level, semi-reverberant, 1m front, standard extractor (dBA)		72	72	72
Dimensions, as standard – Width W (mm)		700	700	700
(case only) – Length L (mm)		960	960	960
– Height H (mm)		910	910	910
Weight as standard (kg)		130	136	160
↓ Option Code				
Q11	Extractors – 1kW, 1-phase (switch, 10m flex, plug)	Standard	Standard	Standard
Q13	– 1kW, 3-phase (contactor overload)	Option	Option	Option
Q21	– 2kW, 1-phase (switch, 10m flex, plug)	Option	Option	-
Q23	– 2kW, 3-phase (contactor overload)	Option	Option	-
-	Filter Cleaning System – Manual	Standard	Standard	-
V	– Vibro	Option	-	-
J	– Jet	Option	-	-
-	Mounting Method – Fixed (wall, column, ceiling)	Standard	Standard	Standard
S	– Mobile: 4 castor wheels, stabiliser	Option	Option	Option
N	– Mobile: 2 castors, 2 pneumatic wheels, stabiliser	Option	Option	Option

How To Order Industrial Air Recirculators

Choose Recirculator Code from above table

Options

- Extractor: Leave blank if standard, or **Code** if Option
- Filter Cleaning: Leave blank if standard, **V** or **J** if Option
- Mounting Method: Leave blank if fixed, **S** or **N** if Option

Example: Application 1 on previous page with Q21 extractor and Jet Cleaner. Order : TF8-Q21J, OD6, DN300

Note: if ordering for overseas, also specify voltage, frequency and phase.

How To Order Accessories

Use SS302 Spigot on outlet (Also order SM300 mesh finger guard)

OP300 Pyramid (Use SS301 Spigot on inlet)

Right Angle Outlet Flow

Pyramid Suit Extractor OP301 Q1 OP302 Q2

EC8 Canopy

HR300 Flexible Hose

Silencer

Q17

Sliding DS300

Non Return DN300

OD6 Dust Drawer

OD8 Strainer Drawer

Dampers

O17 Wall Isolators

RC6 Compressed Air Cleaning Nozzle

Column

Bracket OB8 (order 2 off)

BF3

Refer to Filter Table opposite

Replacement Filters (for all products)

After Filters

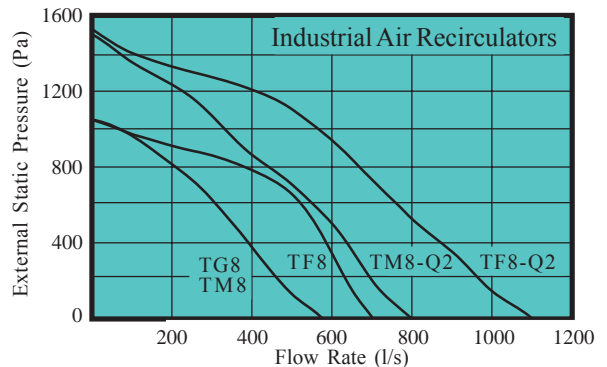
Type	Max Flow (Required)	Code
HEPA	550L/s	PH600
HEPA	900L/s	PH615
Gas	400L/s	2PG605

Filter Table

Pollutant	Air Recirc	Pre-Filter Codes		Cartridge Filters			
		Screen	Pad	Code	Type	Size	Media
Fume/Dust	TF8	-	-	CR8	Channel	20m ²	Flame retardant corrugated cellulose
Mist	TM8	MM8	MW8	CW8	Channel	20m ²	Polymer: water and oil repellent
Gas	TG8	MM8	ME8	CG8	Channel	16kg	Gas adsorption granules type MG1 as standard

Technical and Safety notes

- Recirculation systems are usually sized based on air changes per hour (acph) or flow rate per occupant. Refer to your local codes/legislation or to ASHRAE. For example, some commonly used acph figures are based on airborne pollutant concentrations as follows:
 - Welding Fume: 5 to 6 (light), 6 to 8 (medium), 8 to 10 (heavy).
 - Oil Mist: 4 to 5 (light), 5 to 6 (medium), 6 to 8 (heavy).
- Locate and configure Recirculators to establish a uniform airflow pattern throughout the entire space. All occupied spaces must be supplied with fresh outdoor air to replenish oxygen and dilute carbon dioxide.
- Gas Recirculators have adsorption filters with finite life. They reduce in efficiency when substantially loaded. Therefore, if gas is potentially toxic, the customer should duct the outlet to outside the building.
- Wall and ceiling mounted products must be fixed securely to suitable surfaces and isolation mounted to reduce noise, if necessary.
- Read Instruction Manuals provided before operating products.
- This brochure describes **standard** products designed for use in non-hazardous areas and for use with nuisance pollutants which are not: explosive, flammable, hot/incendiary, mixtures of sparks and combustibles, corrosive or toxic. If risk of toxic pollutants (concentrations in breathing zone above exposure standards/TLVs), also consider ducting outside, product after-filters, outlet monitors, or personal respirators. Requests for non-standard products, or particular capture/filtration efficiencies or filters, must be stated in writing on customer's final order and if accepted will be restated on Ozone's invoice.
- It is impossible to list all the potential safety issues associated with pollution control. Ozone is a supplier of standard products, not a consultant or contractor. We rely on the customer and their agents to safely select products, design connected systems, and install/operate/maintain these products and systems, to suit their pollutant. Customers should consult and comply with relevant National and State laws/regulations/standards.
- Channel Cartridge and Extractor patents are pending.



Curves show static pressure at Recirculator inlet. Set equal to static pressure of upstream system (system losses + velocity pressure at inlet). Tested with clean filters, inline flow, 300mm ducted inlet, diffuse outlet, Recirculator at end of system (AMCA or BS type C).

Useful Conversions

- 1m = 1000mm = 3.38 feet
- 1kg = 1000g = 2.20 pounds
- 1Pa = 0.102mm water = 0.004 inches water
- 1L/s = 3.60m³/hr = 2.12cfm
- 1kW = 1000W = 1.34hp

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