

# Oil Water Separators

An oil water separator (“separator” or “pre-treatment equipment”) is a system designed to remove oil based pollutants from wastewater. It is pre-treatment equipment that allows wastewater to be discharged to the sewer.

Wastewater (or trade waste) is classified as any wastewater that is a result of commercial or industrial activities. In workshops, wastewater is typically caused by activities such as engine degreasing, parts cleaning, floor cleaning and oil spills. This water cannot go directly to the sewer system without first being treated.

## Types of separators

There are at least three different types of separators:

- **Coalescing/Corrugated Plate Interceptor**  
The CPI uses gravity to separate the pollutants from the wastewater. The unit contains corrugated plates that are angled to allow for separation to occur (solid waste sinks and oils float). CPIs are built underground and contain a series of chambers that the liquid waste is moved through before the cleaned wastewater is discharged.
- **Vertical Gravity Separator**  
The VGS works in much the same way as the CPI except that it is contained in a unit that sits on or against a wall. Gravity is used to separate the oils and solids from the wastewater. The oils are pumped from the surface whilst the solids are drained from the bottom. The wastewater is pumped from the mid-section into the sewer. The VGS can intake wastewater faster than CPIs can and is able to remove smaller particles.

- **Hydrocyclone Separation Systems**  
The HSS uses centrifugal force to separate the pollutants from the wastewater. The unit is relatively compact and sits against a wall. The HSS claims the advantages of high performance, low maintenance and speed.

**CONSIDER:** When purchasing a separator consider the other costs involved other than the unit cost. Don't forget the installation, ongoing Trade Waste Permit fees and servicing costs.

## When separators should be used

A separator should be used if hydrocarbons such as engine oil are used, created as waste or stored. They are used to catch all liquid that goes on the workshop floor and process it before the wastewater is sent to the sewer and the sludge is stored separately.

Separators should collect wastewater from the workshop floor and any bays where vehicles are washed or where engines are degreased.

If your business runs a “dry workshop” you may not need to use a separator. However, the workshop needs to ensure that there is no danger of contaminants leaving the workshop and entering the waterways. An example of how this can be achieved is through bunding and careful liquid storage. For more information, please see the environmental information guides; “Bunding” and “Liquid Wastes – Storage and Handling”.

Local councils may require workshops to install separators when developing a new site or redeveloping an existing site. Please check with your local council to find out all development requirements relating to wastewater if redeveloping or developing a new site.

## Installing a separator

### 1. Choose equipment

A list of suppliers of authorised pre-treatment equipment can be obtained from Sydney Water, Hunter Water or local council in NSW and TAMS in the ACT. Only authorised separators can be installed and used.

All authorised pre-treatment equipment must have a compliance plate and a compliance number.

Make sure the separator that you purchase is suitable for the sorts of contaminants that are used in the automotive industry.

### 2. Apply for a Trade Waste Permit

A Trade Waste Permit is written permission from Sydney Water, Hunter Water or your local council (depending on your location in NSW) to discharge wastewater to the sewer. Wastewater must not be discharged to the sewer before a Trade Waste Permit is obtained.

To apply for a Trade Waste Permit contact Sydney Water, Hunter Water or your local council. You will need to provide a site floor plan (this may be a sketch) showing the authorised pre-treatment equipment, bunding, north point, streets, boundary trap and fixtures connected to the pre-treatment. If the separator is new, its compliance number will also need to be supplied.

The Trade Waste Permit will attract a fee as decided by the regulatory body. This goes towards the treatment that the wastewater requires. This fee may be payable annually.

For ACT businesses, contact ACTewAGL to obtain permission to release treated wastewater into the sewer system.

### 3. Install the separator

The separator must be installed by a licensed plumber. Discharge to the sewer cannot occur until the separator has been properly installed and checked by the regulatory body.

### 4. Get inspected

For NSW businesses, the separator will need to be checked by a trade water inspector to make sure that the equipment is installed correctly, is authorised and works properly. It is recommended that the installing plumber is onsite for this inspection.

A second inspection will also be required from a plumbing and drainage inspector to check that the plumbing and drainage complies with AS3500 National Plumbing and Drainage Code and the New South Wales Plumbing and Drainage Code of Practice 2006. This inspection attracts a fee.

Both inspections are completed by representatives of Sydney Water, Hunter Water or the local council in NSW. Contact the relevant body to arrange inspections.

For ACT businesses, the separator will need to be checked by a company accredited for this purpose by the manufacturer or supplier of the equipment. A certificate of commissioning then needs to be sent to ACTewAGL.

### 5. Trade Waste Permit Confirmation

After the inspections Sydney Water, Hunter Water or the local council will send confirmation once the permit is issued to NSW businesses. The Trade Waste Permit will set:

- amount of wastewater that can be discharged
- type and amount of substances allowed in the wastewater
- type of pre-treatment required
- annual trade waste charges.

For ACT businesses, ACTewAGL will send out a schedule of recommended cleaning and maintenance which needs to be kept onsite. ACTewAGL can inspect this document at any time.

## Separator Installation Checklist

- Choose equipment
- Apply for a Trade Waste Permit
- Install the separator
- Get inspected
- Trade Waste Permit Confirmation

## Ongoing maintenance

A separator is an integral piece of equipment to prevent workshops from leaking contaminated water into the waterways. There are several actions that a workshop can take to make certain the separator is working efficiently and properly.

Regulatory bodies are authorised to take samples of the wastewater to ensure that contaminants are being captured by the separator.

### ▪ Servicing

It is recommended that separators are serviced regularly as per manufacturer or supplier instructions. This is typically every three months. Regular servicing and/or cleaning ensure the separator is working efficiently to avoid pollutants contaminating the wastewater. Authorised contractors can be engaged to complete scheduled services and/or cleans.

In addition, keep in mind that any sludge removed from a separator is a trackable liquid. For more information, please see the environmental information guide; "Liquid Wastes – Disposal".

### ▪ Logbook

A written record should be kept of all separator services and cleans. This may be kept by a contractor if one is used for servicing. By keeping a record you can demonstrate that responsible and regular servicing has occurred should the separator ever have a problem.

### ▪ Staff training

Ensure that at least two staff members are aware of how the separator operates in case of an emergency.

### ▪ Quick break degreasers and detergents

Use quick break degreasers and detergents to achieve best possible separation results. Traditional solvent-based degreasers and detergents cause the oil and water to remain mixed and can allow contaminants to pass through the separator and into the sewer.

Quick break cleaning products aid the separation of oil and water so that the wastewater eventually dispelled from the separator is free of contaminants.

Pre-treated wastewater should appear clear. If the wastewater is milky in colour then the separator is not removing an adequate amount of contaminants.

## Key contacts

MTA NSW

02 9213 4222

[www.greenstamp.mtansw.com.au](http://www.greenstamp.mtansw.com.au)

ACTewAGL (ACT)

13 11 93

[www.actewagl.com.au](http://www.actewagl.com.au)

Department of Environment &  
Climate Change (NSW)

131 555

[www.environment.nsw.gov.au](http://www.environment.nsw.gov.au)

Emergency Services

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Hunter Water (NSW)

1300 657 657

[www.hunterwater.com.au](http://www.hunterwater.com.au)

Local Council Contacts (NSW)

[www.dlg.nsw.gov.au](http://www.dlg.nsw.gov.au)

Sydney Water (NSW)

13 20 92

[www.sydneywater.com.au](http://www.sydneywater.com.au)

Territory & Municipal Services (ACT)

13 22 81

[www.tams.act.gov.au](http://www.tams.act.gov.au)

WorkCover (ACT)

02 6205 0200

[www.workcover.act.gov.au](http://www.workcover.act.gov.au)

WorkCover (NSW)

13 10 50

[www.workcover.nsw.gov.au](http://www.workcover.nsw.gov.au)