Compressors draw in filtered atmospheric air and compress it for use in industrial processes such as refrigeration and pneumatic actuators. Air is humid and contains dust, along with other water-soluble gaseous contaminants. Condensate water will contain all of these pollutants and also the oils used to lubricate the moving parts of the compressor. A typical 20kW compressor will produce between 70 and 100 litres of condensate water per day, depending upon the humidity of the atmosphere. Most industrial sites will have a number of small compressors producing only a few litres of condensate per day.

Untreated condensate water can either be collected manually and transferred to drums for off-site disposal, or can be drained automatically from condensate traps direct to the foul sewer.

**Condensate Treatment**

Condensate water may need treatment before disposal to foul sewer e.g. to remove excess oils or specific contaminants. Treatment usually consists of a combination of:

- Filtration, e.g. through activated carbon
- chemical absorption
- gravity separation
- mechanical separation, e.g. membranes

Oil separation systems must be regularly maintained. Treatment will usually be necessary if the condensate contains excess mineral oils (i.e. more than a visible trace of oil on the surface of the treated discharge). If biodegradable oils are used by the compressors (defined as those passing EPA test method 796.3100 for aerobic aquatic biodegradation) treatment is not usually necessary, except in the case of known toxicity of the oil. Most treated condensates will have a COD less than 50 mg/l, suspended solids between 15 and 30 mg/l, pH between 7 and 8, and fats, oils and greases less than 1 mg/l.

**Sewer Disposal**

Condensate water must not be discharged to surface water or be allowed to soak-away to ground. Treated condensate water from mineral oil installations and untreated biodegradable oil installations will be suitable for disposal to public foul sewer. This will require a separate trade effluent consent if the discharge site does not already have one. Sampling will only be necessary in exceptional circumstances.

Compressors are not always bunded. It is good practice to maintain a supply of suitable adsorbents at key points in the event of spillage of neat oils or contaminated condensate water.

**References**