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**PURO  
Grand**

**CONDENSATE CLEANERS**

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**CONDENSATE MANAGEMENT SPECIALIST**

# Need to know

## Why install a condensate cleaner ?

Local environmental laws and regulations state that most of the oil contaminant must be removed from the condensate before discharging in to the sewage system. Be sure to check your local regulations to determine the necessary PPM allowed to be discharged

## Type of lubricants can be separated with the PURO

The PURO was designed to separate mineral oil, semi –and fully synthetic lubricants from condensate. A stable emulsion formed from mineral oil or synthetic lubricants is typically not a problem for the family of our oil-water separators.

Special elements are available for poly-glycol applications, consult the factory.

## How the PURO works

Polypropylene attracts oil and captures it, almost as if it draws oil like a magnet. That simplicity and our technology are at the root of the PURO's efficiency.

The PURO uses various filtration stages to achieve the lowest possible oil residue. The first stage is an adsorption filter that utilizes a material that is treated and designed to adsorb oil, not water. This material naturally floats on water. An indicator that can be seen from a distance demonstrates the life left of this element and highlights the moment when the element requires to be changed.

The condensate flows through the filter and the oil is adsorbed. The filter will get heavier according to the quantity of adsorbed oil and naturally sink to the bottom of the first tower.

An indicator demonstrates when this first tower filter element requires to be replaced.

Subsequent separation stages are completed with specially selected activated carbon to polish out the remaining contaminants.

## Why choose the PURO

No de-rating or over-sizing (no complicated sizing charts required) because the standard PURO models handle virtually all types of compressor lubricants. *In addition the PURO does not incorporate/require a condensate settling tank.* Any type of condensate drain can be applied.

## The PURO footprint

The PURO outer dimensions are much smaller than other condensate cleaners in the marketplace, because the PURO does not incorporate large condensate settling reservoirs.

The PURO GRAND can be retrofitted with an XTENDER, meaning as your customer grows his compressed air system to a larger capacity, you can simply add the XTENDER to the GRAND. Two models and an Xtender cover all capacities up to 2500 scfm (compressor capacity).

## Health & Safety

Large condensate settling reservoirs (used by our competitors) can stimulate the growth of harmful bacteria and the cause of unpleasant smells. The PURO does not incorporate a settling reservoir, nevertheless, we recommend that you apply the protective clothing and mask that is supplied as standard with all PURO models and elements.

# No compromise to quality



*Up to 65 cfm compressor capacity*

The ENVIRO is designed to separate oil from condensate, which has been extracted from compressed air systems up to 1.8 m<sup>3</sup>/min (65 cfm).

Small or low cost compressed air systems require low cost separation solutions. The ENVIRO has been designed specifically for such economy applications.

## Features

- Designed for condensate containing mineral oil
- Is applied on compressed air systems up to 65 cfm.
- TEST valve for sampling purposes.
- Simple to install
- Easy to maintain
- Rugged PE housing
- Small compact design



Condensate inlet connections

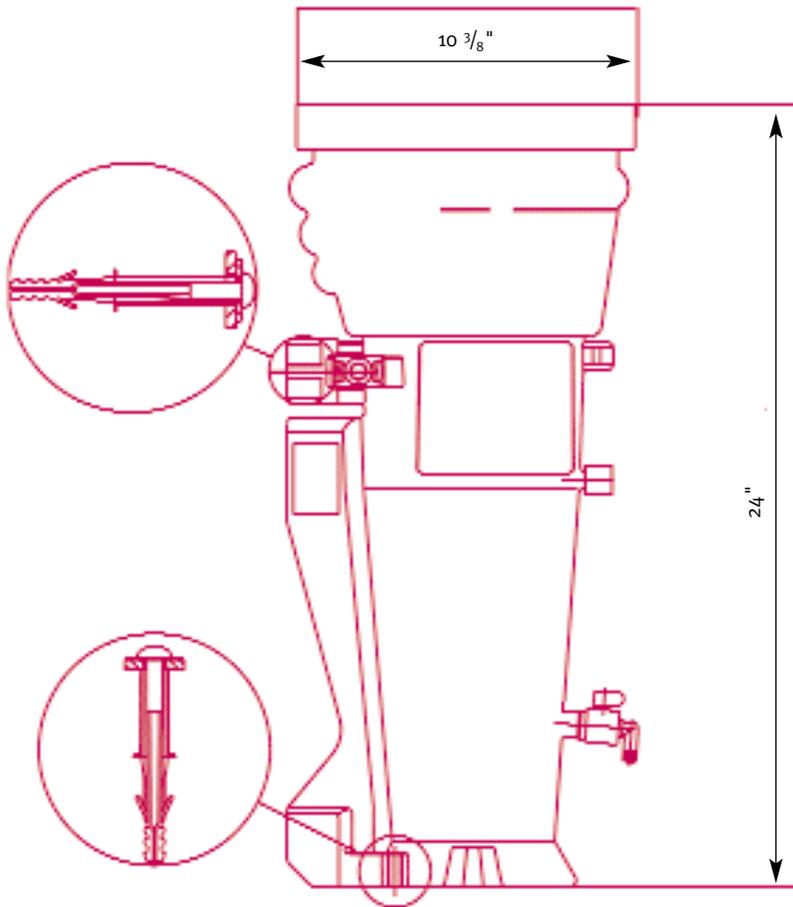


TEST valve



Overflow outlet

Dimensions in inches



Compressor capacity	1.8m <sup>3</sup> /min (65 cfm)
Reservoir capacity	3,5 gallons
Reservoir dimensions	261 x 600 x 270 (W x H x D)
Active coal element	1 gallon
Pre-filter	0,5 gallon
Condensate inlet	1/2", 3/8", 1/4"
Clean water outlet	1/2" hose connection (15° angle)
Emergency overflow	1/4"
Sample TEST valve	yes
Weight empty	10 lbs

## Larger or complicated separation applications

For applications exceeding 65 cfm compressor capacities or requiring separation of synthetic lubricants and polyglycols please refer to the PURO range of separators.

Stable condensate emulsions and separation of polyglycol can only be achieved with the PURO range of separators, please consult factory.

## Small & low cost separations



Up to 300 cfm

The **PURO** is designed to separate oil from condensate, that is extracted from compressed air systems. The PURO condensate separator covers compressor capacities up to 8 m<sup>3</sup>/min (300 cfm). Polypropylene attracts oil and captures it, almost as if it draws oil like a magnet. That simplicity and our technology are at the root of the PURO's efficiency to clean virtually all types of condensate (emulsified or not). The typical output oil residue value is less than 10 ppm.

## Features

- For polyglycol applications consult factory
- No de-rating or over-sizing (**no complicated sizing charts required**) !
- Will handle and separate **mineral oil, synthetic oil and stable emulsions** !
- Is applied on capacity of compressed air systems up to 35m<sup>3</sup>/min (1250 cfm)
- *Does not incorporate/require a condensate settling tank.*
- TEST valve for sampling purposes.
- Simple to install
- Easy to maintain
- Rugged PE housing
- Small compact design



TEST valve

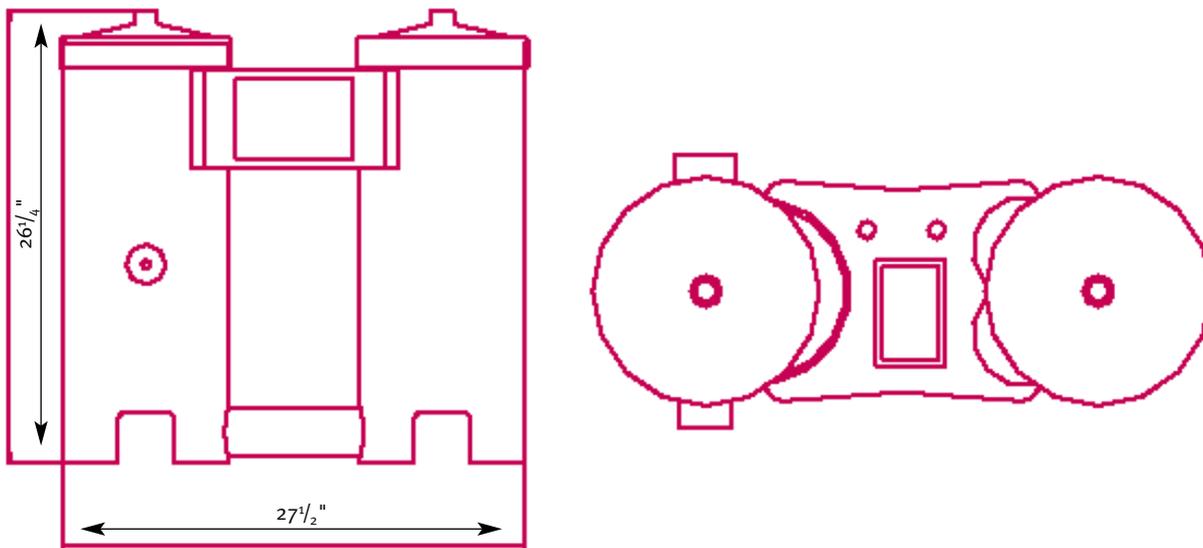


Helpful lifting handles on the elements



Element lifespan indicator

**Dimensions in inches**



**Specifications**

Max. compressor capacity	300 cfm
Inlet connections	1/2" 2 each
Outlet connection	1/2"
Housing material	PE
TEST valve	yes
Target oil residue (outlet value)	< 10 ppm
Poly-element life span indicator	Yes
Poly-element max.oil absorption capacity	Approx. 1,5 gallons
Weight	Approx. 34 lbs (packaged weight)
Dimensions HxWxD (inches)	26 1/4"x27 1/2"x12

Compressed air condensate containing Polyglycol can be separated by the PURO – please consult factory.

All PURO models can accept condensate discharge from intelligent drains, timer drains, float drains and manual drains. Additional condensate can also be manually added.

Replacement kit



**Perfect results every time**



Up to 1250 cfm

The **PURO** is designed to separate oil from condensate, that is extracted from compressed air systems. The PURO condensate separator covers compressor capacities up to 35m<sup>3</sup>/min (1250 cfm). Polypropylene attracts oil and captures it, almost as if it draws oil like a magnet. That simplicity and our technology are at the root of the PURO's efficiency to clean virtually all types of condensate (emulsified or not). The typical output oil residue value is less than 10 ppm.

## Features

- No de-rating or over-sizing (**no complicated sizing charts required**) !
- Will handle and separate **mineral oil, synthetic oil and stable emulsions** !
- Consult factory for polyglycol applications
- Is applied on capacity of compressed air systems up to 35m<sup>3</sup>/min (1250 cfm)
- *Does not incorporate/require a condensate settling tank.*
- TEST valve for sampling purposes.
- Simple to install
- Easy to maintain
- Rugged PE housing
- Small compact design



TEST valve

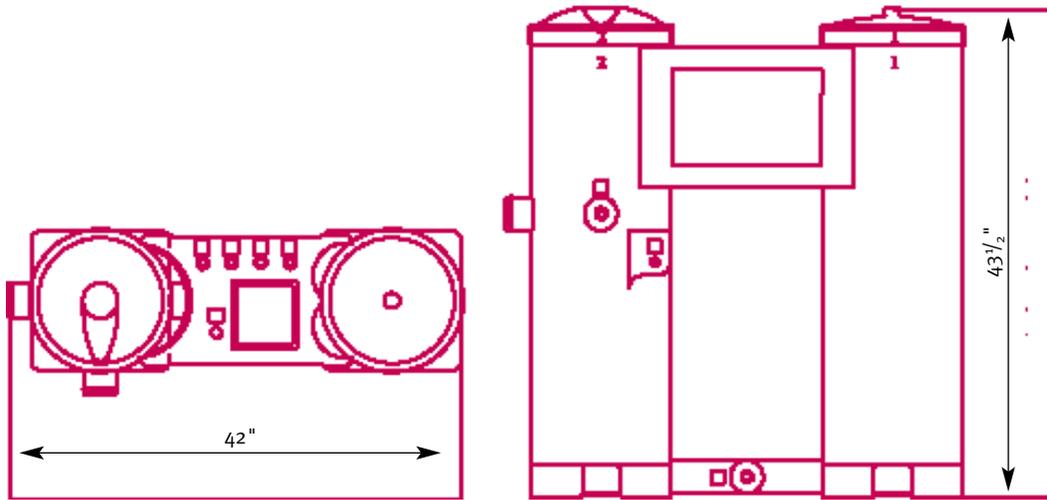


Helpful lifting handles on the elements



Element lifespan indicator

**Dimensions in inches**



**Specifications**

Max. compressor capacity	1250 cfm
Housing material	PE
TEST valve	yes
Max. oil adsorption 1st filter	6 gallons
1st filter lifespan indicator	yes
Activated carbon elements	1 each
Inlet connections	1/2" 4 each
Outlet connection	1/2"
Target oil residue (outlet value)	< 10 ppm
Housing colour dark grey	RAL 7026
Lid colour black	RAL 7021

**All PURO models can accept condensate discharge from intelligent drains, timer drains, float drains and manual drains.**

**Additional condensate can also be manually added.**

Compressed air condensate containing Polyglycol can be separated by the PURO – please consult factory.



Test kit supplied  
As standard



Test kit



Replacement  
kit



Service drain to empty the unit

**Many features included**



The **PURO GRAND Xtender** is a modular add-on tower. Add the Xtender to the PURO GRAND to achieve the desired capacity requirements.

The PURO GRAND Xtender condensate separator covers a compressor capacity up to 2500 cfm with a typical output oil residue value is less than 10 ppm.

The PURO GRAND Xtender can be installed in an in-line configuration or in a corner set-up.

## Features

- For polyglycol applications consult factory
- No de-rating or over-sizing (no complicated sizing charts required) !
- Will handle and separate mineral oil, synthetic oil and stable emulsions !
- Is applied on capacity of compressed air systems up to 70/min (2500 cfm)
- Does not incorporate/require a condensate settling tank.
- TEST valve for sampling purposes.
- Simple to install
- Easy to maintain
- Rugged PE housing
- Small compact design



TEST valve

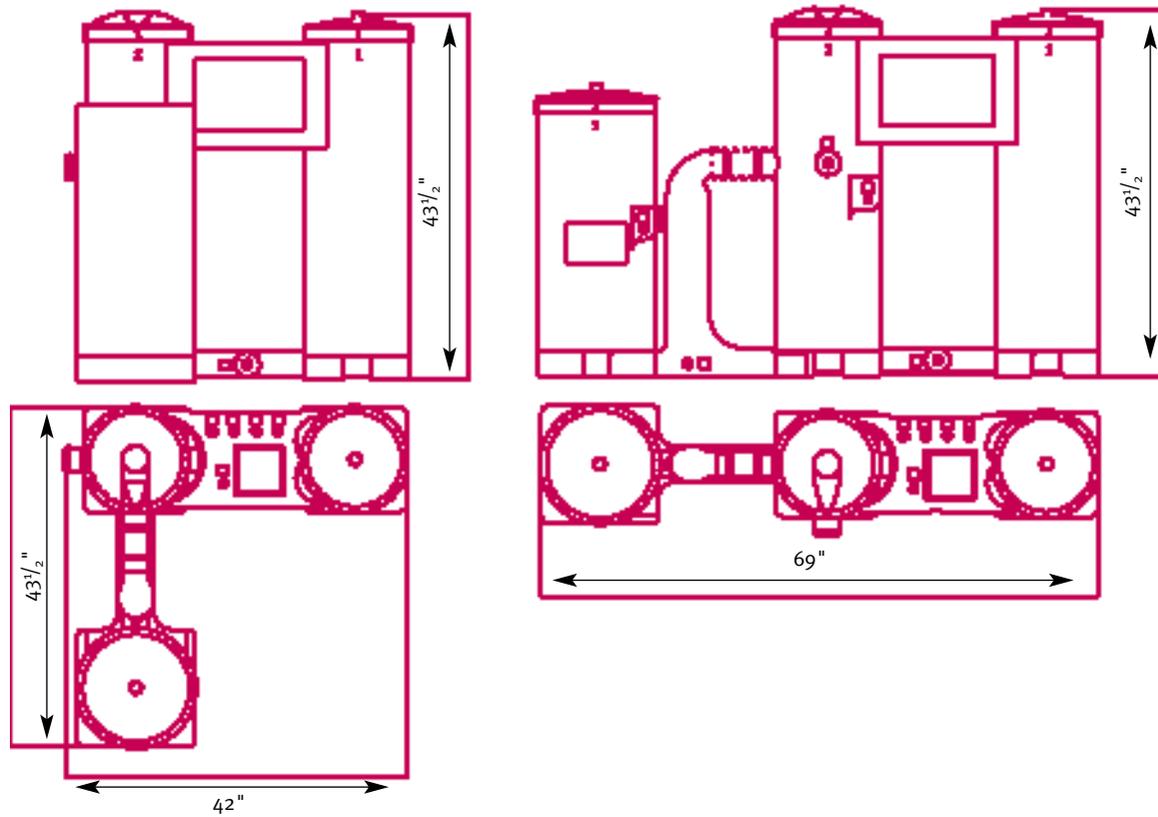


Helpful lifting handles on the elements



Grand Xtender connection

## Dimensions in inches



## Specifications

Max. compressor capacity	2500 cfm
Housing material	PE
TEST valve	yes
Max. oil adsorption 1st filter	6 gallons
1st filter lifespan indicator	yes
Activated carbon elements	2 each
Inlet connections	1/2" 4 each
Outlet connection	1/2"
Target oil residue (outlet value)	< 10 ppm
Housing colour dark grey	RAL 7026
Lid colour black	RAL 7021

**All PURO models can accept condensate discharge from intelligent drains, timer drains, float drains and manual drains. Additional condensate can also be manually added.**

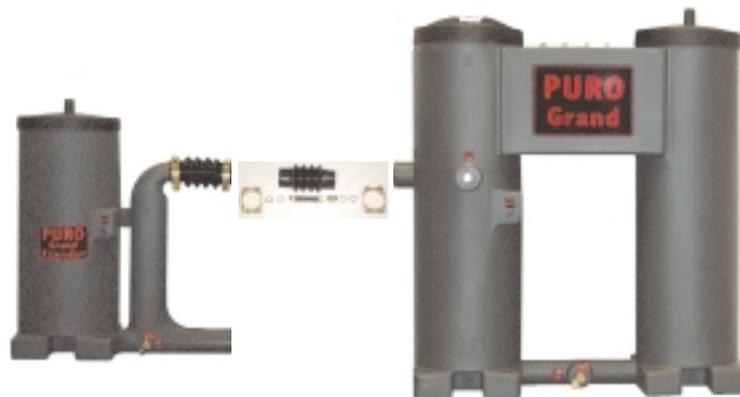
Compressed air condensate containing Polyglycol can be separated by the PURO – please consult factory.



Service drain to empty the unit



Test kit supplied As standard



## Modular add-on system

# DISTRIBUTOR

## Compressed air condensate distributor

Although the PURO GRAND XTENDER has a compressor capacity of 2500 SCFM, it is possible that certain large applications require two or more units to be installed. In these cases it is recommended that the condensate be equally distributed into the separators so that the elements are saturated evenly.



The DISTRIBUTOR has two 1" condensate inlets and eight 1/2" outlets.

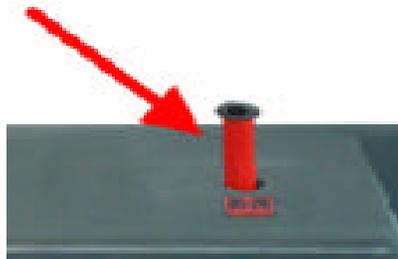
For cleaning and servicing purposes a service valve is incorporated to empty the DISTRIBUTOR.



Service valve

An *overflow indicator* will highlight a too high flow rate of condensate in to the DISTRIBUTOR.

The depressurizing pad ensures compressed air condensate depressurization and the subsequent distribution into the PURO separators.



Overflow indicator

The DISTRIBUTOR is supplied complete with the following items to simplify the installation:

- DISTRIBUTOR
- Wall fixing brackets
- Wall fixing bolts and plugs
- Spirit level



## Poly-element life indicator

A visual check is offered by the indicator in the head of tower 1. The indicator rests on the white element and sinks downwards according to the white element's remaining adsorption capacity.



## TEST

The PURO is designed to separate oil from condensate. To check the PURO's activated carbon element(s) and the output residue of oil, a TEST valve is located in the front of all units.



## Test bottle

All PURO's come with a test kit reading of 20 ppm. The test bottle has a label giving an indicative comparison that is mounted on top of tower number two.



## Servicing drain valve

Once a year we recommend a thorough cleaning/servicing of the PURO. For health and safety reasons the whole unit can be drained from its water content by opening the service valve.



## Safety kit

For health and safety reasons all PURO units and replacement elements are supplied complete with a protective clothing kit.

The content of the kit is: face mask, gloves and plastic jacket.



## Modular connection GRAND-EXTENDER

Although the overall sizes of the PURO models are compact in design, the larger models have an additional hook-up feature. The PURO GRAND XTENDER can be positioned in a 90 degree (corner position) or a 180 degree (flat against the wall position).



## Overflow indicator

It is virtually impossible to overflow the PURO, yet as a precaution the larger models have an incorporated overflow feature. The overflow indicator also gives a visual indication of the condensate inlet flow rate.



## Depressurizing feature

The PURO depressurizes the condensate immediately at the inlet stage. This feature allows for every type of condensate drain. (timer controlled, intelligent type or float type).



# Frequently Asked Questions

## **Why does my old style condensate cleaner overflow?**

You almost certainly have a weir type machine which cannot handle condensate from modern systems. The indicator provided gives a very short warning but in practice, overflowing is the first indication that the machine is blocked.

## **How can I stop my weir type machine from overflowing?**

The only way to prevent weir type machines from overflowing is to change the carbon elements frequently. For example, if the carbon elements were replaced every day, overflowing would be prevented but costs would be very high. In practice, elements changed every three months or so ensure 'acceptable' costs and minimise customer complaints.

## **Will the PURO condensate cleaners overflow?**

Provided that normal maintenance is carried out it is almost impossible for the PURO condensate cleaners to overflow.

## **How do I know that my old style condensate cleaner is working properly?**

All weir type condensate cleaners have a bottle or container to catch any separated oil. If the machine is working properly, after a week or two, depending on the system, this bottle should contain some liquid oil i.e. some oil that looks like oil. Should it contain nothing at all or some solution of oil and water, the machine is not working properly.

## **Will the PURO condensate cleaners work with modern systems and solutions?**

The PURO condensate cleaners are designed to handle any solutions and even thick emulsions and are working very successfully on all types of system.

## **Why can I not use solenoid type drains with my old style weir type machine?**

This type of machine depends upon the oil settling out and rising to the surface of the solution. Solenoid type drain valves mix up the solution and reduce the settling time.

## **Can I use any type of drain valves with the PURO condensate cleaner?**

The PURO condensate cleaners work with any drain valves or any combination of drain valves.

## **Why do I need to test the output of my old style weir type machine?**

This type of machine is very un-reliable and likely to fail at any time. Until it actually overflows, regular and frequent testing is the only way to discover if failure is imminent.

## **Why do the carbon elements on my old style separator only last a short time?**

The design of the weir type machine means that, in most cases, oil is not actually separated but is collected inside the machine. After some time, this oil gets through onto the carbon elements and quickly blocks them. Replacing the elements doesn't help as the new elements also get blocked by the oil.

## **Why do the carbon elements in the PURO condensate cleaners last longer?**

The design of the PURO condensate cleaners prevents most of the oil from passing to the carbon elements which only have to do a very minimum of work.

## **How long will the PURO elements last?**

Provided that the PURO poly-element is changed properly, the carbon elements should last for about 12 months. The life of the PURO white-element is determined by the amount of oil that needs to be separated which means that well maintained systems will use fewer elements. Should compressor servicing be poor, neat oil may pass into the PURO condensate cleaner and will seriously shorten the life of the PURO white-element and, if not noticed, carbon elements as well. However, the PURO condensate cleaner will prevent all or nearly all of the neat oil from flooding onto the floor or down the drain.

Problems will be averted if both compressor and the PURO supervision and servicing is carried out properly.

## **Why do I not need an oil bottle with the PURO machine?**

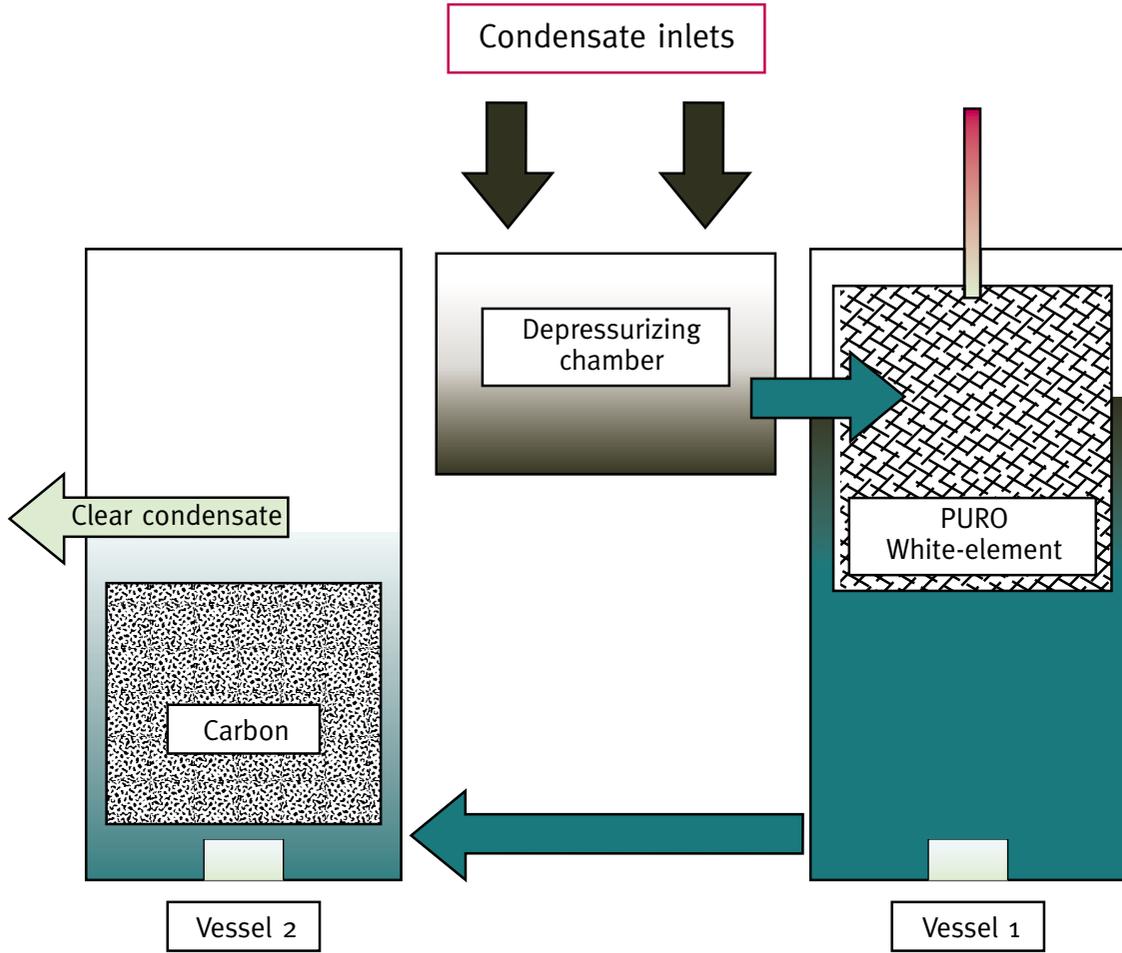
The PURO condensate cleaners collect all the separated oil in a special disposable filter which means that when the filter is changed, all the separated oil is removed from the machine.

## **Will my condensate be clear enough to put down the drain?**

The efficiency of the PURO condensate cleaners means that it is not uncommon for the condensate to be clean enough to discharge before it reaches the activated carbon elements for final cleansing.

## **Why are the PURO condensate cleaners cheaper to install?**

The low size and weight of the PURO condensate cleaners mean that they will fit almost anywhere and will take less time and manpower to position. The PURO does not need a smooth or a very level floor or adjusting and it is not necessary to purchase and fit special, expensive drain valves.



## Old style separators – the problem explained!

*The figures represent a cross-section of a conventional oil/water separator.*

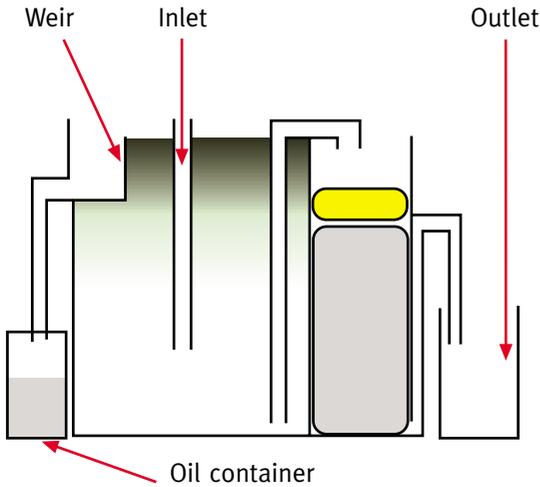


Fig 1 shows ‘What is supposed to happen’ with the darker oil settling above the condensate (green) before flowing over the weir into the oil container leaving fairly clean condensate to pass from the bottom of the settling tank onto the pre-filter (yellow), through the carbon filter (grey) and out of the machine. When working properly, the oil container will contain neat, liquid oil with no contaminants. The oil quantity removed should equate to the amount used to ‘top up’ the compressors over a similar period of time.

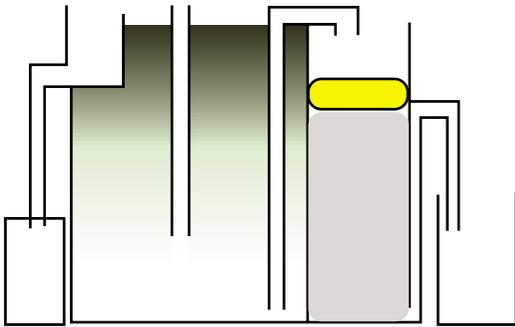


Fig 2 shows no oil passing over the weir as most modern oils form thick emulsions that will not flow over a weir and so ‘build up’ inside the machine. Initially, the machine seems to be working well, with fairly clear solution being produced but the primary separation device, the weir, is doing no work and leaving the carbon to remove all of the oil.

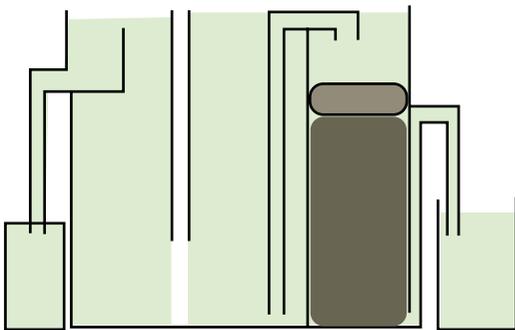


Fig 3 shows that the emulsion has filled the settling tank and reached the transfer pipe. As more condensate is introduced, emulsion must pass into the carbon chamber, quickly blocking the carbon and causing the machine to overflow. Any oil that may be in the oil container will be washed out by the lighter emulsion that now passes over the weir due to the increased surface height inside the tank due to the blockage. A change of carbon elements will simply defer the problem for a few more days and the whole machine will need to be drained and pressure washed to allow the whole process to restart.

9501 Enviro 65 scfm  
 95011 Charcoal Bag



9509 PURO 300 scfm  
 9509-P Puro-Polyglycol-40HP Compressor  
 95092 Puro Poly Bag (White Kit)  
 95095 Polyglycol Bag for Puro  
 95093 Charcoal Bag Puro



9510 Puro Grand 1250 scfm  
 9510-P Puro Grand-Polyglycol-200GO Comp  
 95102 Puro Grand Poly Bag (White Kit)  
 95105 Polyglycol Bag for Grand  
 95103 Charcoal Kit for Grand

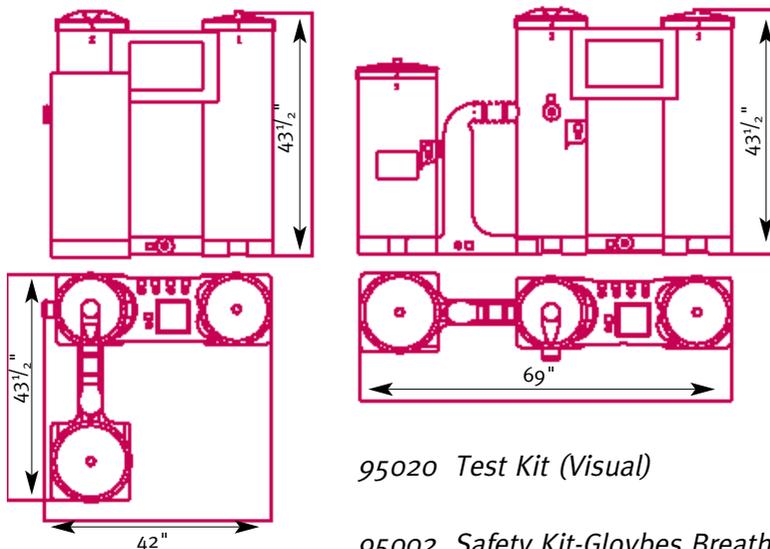


9520 Distribution Box

9511 Puro Xtender 2500 scfm  
 95113 Charcoal Kit for Xtender



**Puro Grand & Xtender Modular Unit Assembled  
 Xtender Can Be Positioned in Front Or Side**



95020 Test Kit (Visual)

95002 Safety Kit-Gloves Breathing Mask etc.  
 Standard with all replacement kits

