



PRODUCT PRESENTATION
Accessories - Oil Water separator

ELGI®
Always Better.

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EOS: PRODUCT VARIANTS

ELGi has Oil Water separator (EOS) starting from 2 to 70 m³/min

Small
2 m³/min



EOS - 7

Medium
3.5 m³/min



EOS - 13

Large
5 to 70 m³/min



EOS - 18



EOS - 35



EOS - 70

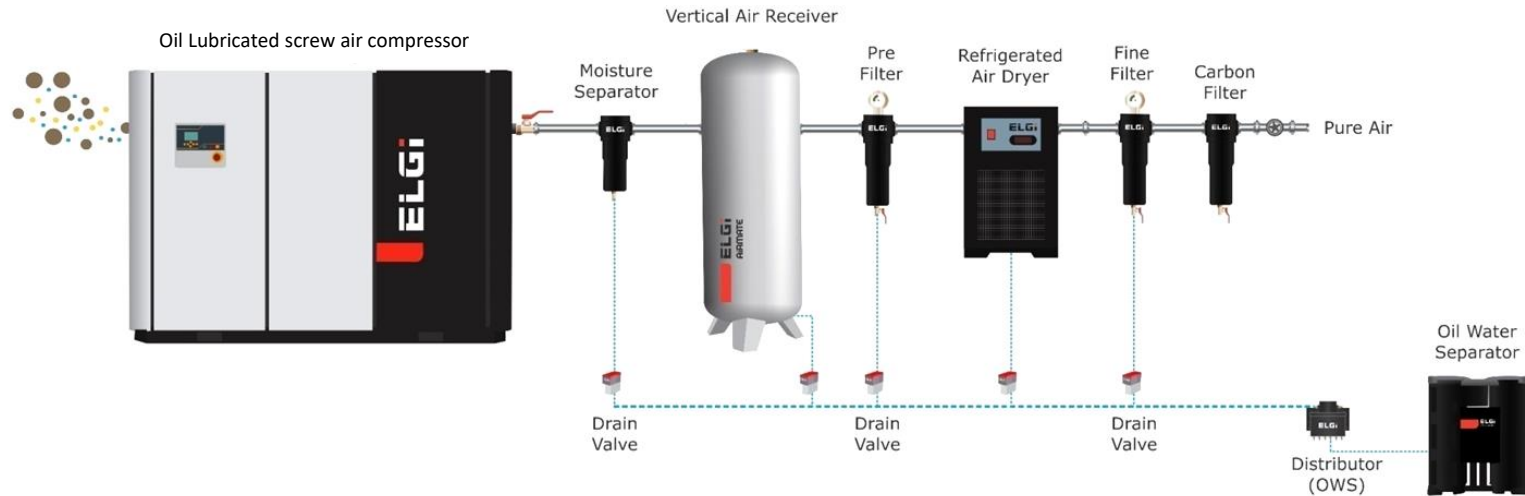


EOS - 110

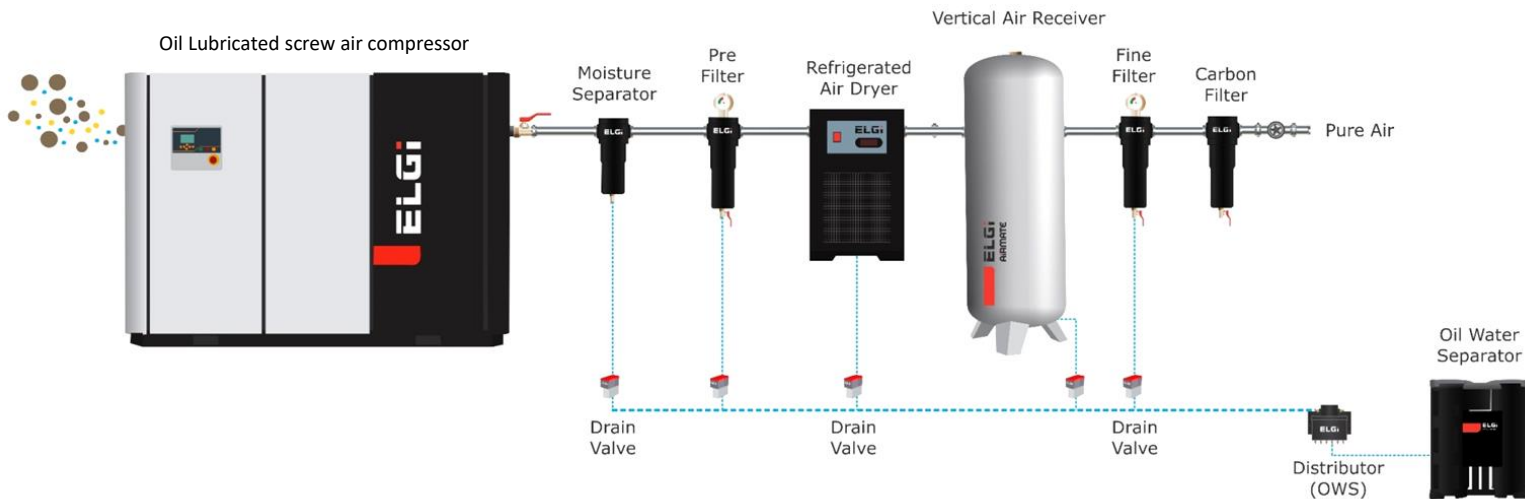


EOS - 210

PROCESS FLOW



Type A: For constant load and for peak demand less than the compressor capacity



Type B: for fluctuating demand and for peak demand higher than the compressor capacity

PRODUCT INTERNAL: COMPONENTS

Small variant



1. Inlet Port
2. Outlet port
3. Test bottle
4. Housing
5. Test drain
6. Mounting bracket

This variant is use and replace complete assembly

Note: The image represented is that of EOS 7. Design is subjected to change

PRODUCT INTERNAL: COMPONENTS

Medium variant



1. Test bottle
2. Lid
3. De pressuring foam
4. White filter element
5. Carbon element
6. Housing
7. Test valve
8. Inlet port
9. Outlet port

Note: The image represented is that of EOS 13. Design is subjected to change

PRODUCT INTERNAL: COMPONENTS

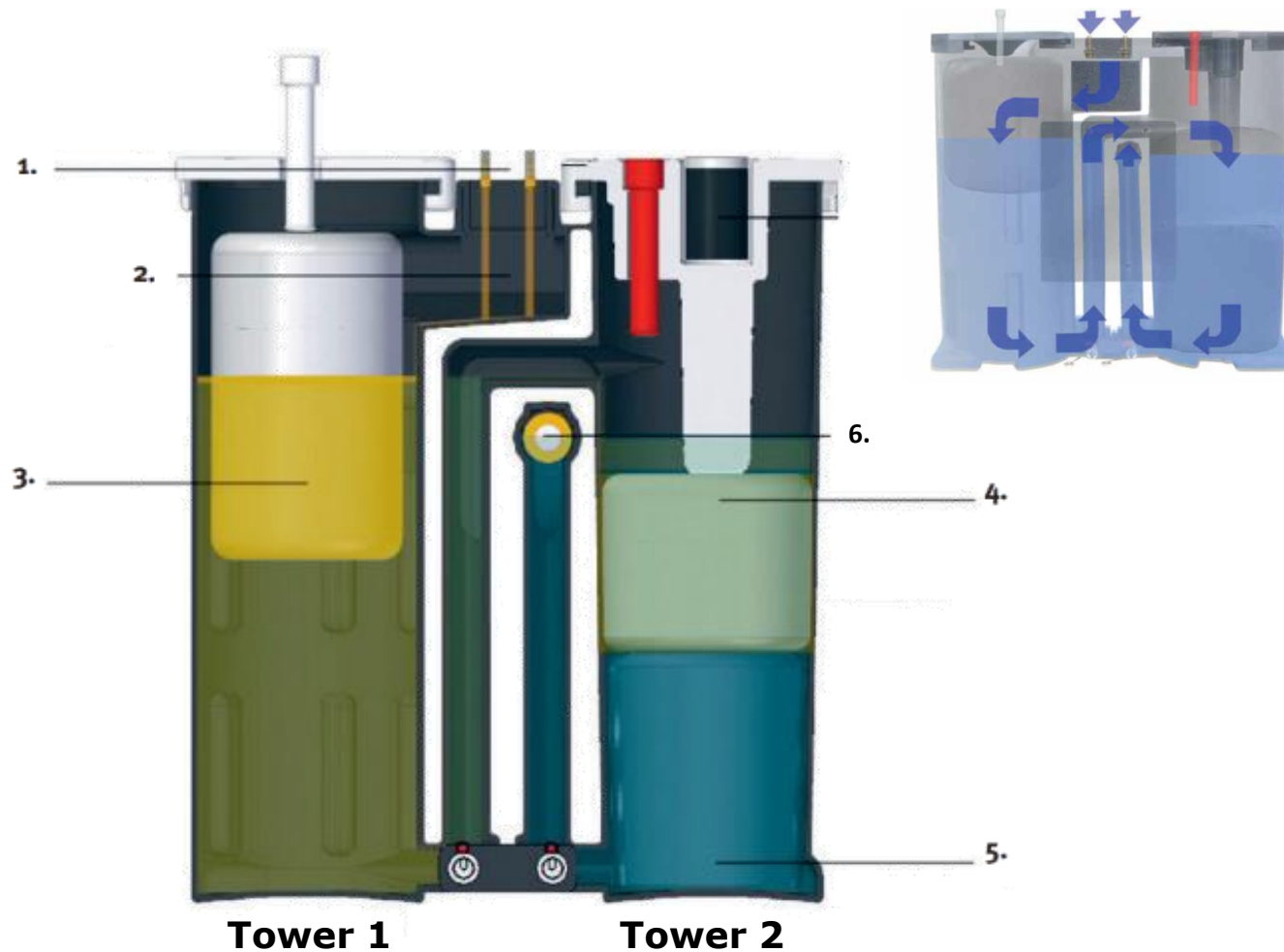
Large variant



1. Element indicator
2. Overflow indicator
3. Test bottle
4. Lid 1
5. Lid 2
6. Inlet port
7. White element
8. Static white element
9. Top de pressurizing foam
10. Inner de pressurizing foam
11. Black element
12. Housing
13. Outlet port
14. Service drain
15. Test drain

Note: The image represented is that of EOS 17 -210. Design is subjected to change

PROCESS FLOW: WORKING



1. Condensate enters through the inlet ports
2. In the depressurization chamber, a foam filter separates the condensate from the compressed air and depressurizes the condensate. The condensate flows into the tower 1.
3. In the tower 1 the condensate passes through the primary element where the majority of the oil is adsorbed by the specialized polypropylene filter element.
4. The condensate then passes into the second tower. Here, additional oil is adsorbed by the secondary polypropylene filter element.
5. Finally the condensate, passes through activated carbon filter adsorbing any remaining hydrocarbons
6. The clean water is drained out through this port

EOS - CONDENSATE TREATMENT EXPERT



ELGi Oil water separator (EOS) is suitable for filtration of all condensate*. Adsorbing elements are designed to perform in the widest range of applications

EOS are cost effective and reliable solution to meet environmental regulations for condensate treatment and ensure your compliance with ISO 14001

Overall Value proposition

1. Designed to work with all compressor lubricants
2. Simple and economical solution for onsite oil water separation



HIGH
RELIABILITY



LOW COST OF
OWNERSHIP



EASY OF
MAINTENANCE



COMPACT, SAFE
AND SILENT

* Elements available as optional for all types of lubricants

HIGH RELIABILITY

High performance elements

- The element fibers have been specially selected and treated to maximize its adsorbing performance
- Designing elements in multi stage configurations helps in increased filtration efficiency
- Can separate both mineral and synthetic oil and is a standard feature of EOS
- Other oil separators like polyglycol available as optional
- Supreme separation efficiency. Residual oil content <10ppm
- Ergonomically designed elements

Poly-propylene (Secondary)



Activated carbon

Poly-propylene (Primary)



HIGH RELIABILITY

Element life indicator

Standard feature in large variants

- This indicator gives instant visual confirmation of the saturation condition of the elements in the separator and when they need to be replaced
- When the primary indicator element is new, it floats on top of the water level in the first tower. As condensate enters the separator over time, the oil becomes adsorbed on the fibres of the polypropylene filter element. This additional weight will cause the element to sink. As it sinks the element life indicator (white) begins to lower.
- When the element is fully saturated with oil, the element life indicator (white) will be all the way down. This indicates that it is time to replace all three elements.



Indicator is up
Element is clean



Indicator at half
Element is half saturated



Indicator down
Replace element

HIGH RELIABILITY

Over flow indicator

Standard feature in large variants

- The second tower incorporates an overflow indicator (red). In the unlikely event that a blockage would occur, this red indicator will rise alerting you to the issue.

Sample bottle

Test valve and sample bottle to test oil ppm residue is included as standard

- Easily compliance with local environmental regulations. Fill the condensate in sample bottle from test valve & compare it with the shaded area of the labels
- Useful for routine inspection of the output self check and confirm quality

Note: This test is a visual "indication only" test. To determine the exact oil content in your condensate sample, a laboratory test is required.



Overflow indicator



EASE OF MAINTENANCE

- Elements are light weights and are packed in a bag, which can be easily lifted and placed easily into the towers. Following international ergonomic laws and regulations, Saturated bags are possible to lift using hand
- Designing elements in multi stage configurations helps in easy servicing procedures, all three bags are to be changed at single time
- Service drains valves are at the bottom of each tower, offering you draining solutions of the individual towers during routine maintenance activities
- Replacement kits are provided with protective clothing kit (mask, gloves and plastic coat) and plastic waste bags for disposing the saturated elements



Easy saturated bag removal



Service drain for draining during maintenance activities



Replacement kit



SAVINGS WITH EOS

- Avoid collecting the condensate and have it trucked away periodically by a waste disposal company. This not only requires storage of the hazardous condensate on site, posing a health and safety risk, it is very costly as disposal charges can be up to several euros/dollars per litre.
- EOS operated gravity and doesn't require any electricity for functioning
- Multi-inlet adapter allows up to three condensate inlet options (Six in total)
- Unlike other oil water separator design where whole unit needs to be replaced after saturation, EOS needs only element replacement. Replacing the whole unit every time is expensive in long run



Compact design with smaller footprint



Multi inlet adapter

ENVIRONMENT FACTOR

- To cater ISO 14001 needs, EOS is one effective method for the user to comply with local body norms to display their part in environment protection
- EOS series is approved by German Institute (DIBT) for oil content in water after separation, i.e. <10ppm. EOS complies with local limit of oil in discharge
- EOS only needs element to be replaced after saturation. Replacing the whole unit every time is highly environmentally unfriendly
- EOS elements are PP fibers which is natural oil product, Housing is made of PE and is recyclable



Deutsches
Institut
für
Bautechnik

DIBt

MAXI DISTRIBUTOR

- Distributor can be used where multiple EOS are needed to be connected, it helps in collecting the condensate and distributing it equally into connected EOS
- Normally with large installations, the condensates is pipe into one 1" pipe that runs to the DISTRIBUTOR.
- Up to 6 OWS can be connected using one distributor
- Distributor can be used when
 - Very large compressors which require more than one EOS
 - Adding additional compressor to the already existing line
 - The replacement of element can be delayed by oversizing/increasing the EOS



MINI DISTRIBUTOR

- Economy distributor can be used where multiple EOS are needed to be connected, it helps in distributing condensate equally into connected EOS
- Up to 3 OWS can be connected using one distributor
- Economy distributor can be used when
 - Very large compressors which require more than one EOS
 - Adding additional compressor to the already existing line
 - The replacement of element can be delayed by oversizing/increasing the EOS



IMPORTANCE OF OIL WATER SEPARATOR

When the oil emulsified condensate is discharged to ground, the water will eventually evaporate, leaving the oil behind.

- 1. NON ECO FRIENDLY** - This will have an harmful impact on eco system.
- 2. ILLEGAL** - Releasing untreated contaminated compressed air condensate into the environment will ultimately lead to legal issues and end up in penalizing by authorities.

Where used

Based on Compressor types



Oil lubricated screw



Oil lubricated Reciprocating



Vane

SIZING & SELECTION GUIDELINES

| | EOS - 7 | EOS - 13 | EOS - 18 | EOS - 35 | EOS - 70 | EOS - 110 | EOS - 210 |
|--|---------|----------|----------|----------|----------|-----------|-----------|
| Max compressor capacity m³/min | 2 | 3.5 | 5 | 10 | 20 | 35 | 70 |
| Max. oil adsorption Appx. Liters | 2 | 3 | 5 | 10 | 15 | 25 | 50 |

Typical sizing of EOS

Assumption of Rated flow: Number of hours of operation, oil at outlet (PPM). However you can oversize or undersize the EOS, in the first case the time for element replacement will be faster than later

Reasons which can affect the performance /life of element

- If the operating temperature & condensate temperature is high, performance might decrease
- Higher oil carry over from compressor proportionally increases/shortens the saturation speed of element

Factors which can cause oil carry over to be more

- Oil can increase due to load/unload cycles, VFD,
- Temperature(Viscosity of oil)
- Pressure (specially low pressure operation will increase oil carry over)

Element material selection for oil separation

- EOS are available in 3 options, the element material needs to be selected based on oil lubricant type used in the compressor
 1. For mineral, Synthetic Oil : STD
 2. For special case: IO
 3. For Polyglycol: MO

FAQ

1. How are OWS typically sized? If by compressor size, how are all accessory / additional drains considered in an installation?

Assumption of Rated flow: Number of hours, oil at outlet (PPM) (Oil can increase due to load/unload cycles, VFD), Temperature(Viscosity of oil), Pressure (specially low pressure operation will increase oil carry over). The life of element is directly proportional to the oil quantity at outlet, which in turn saturates the element.

2. What environmental / industrial compatibilities does the OWS unit have (temperatures, dust/particulate entry) ? Is it compatible with certain lubricants such as Poly-Glycol (PAG) oil?

Higher temperatures lead to lower viscosity and thus higher oil carry over. Dust particle doesn't affect OWS as much as it affects the compressor itself.

3. What reclamation / recycling methods are acceptable with OWS elements?

Used Elements disposal is same as the oil disposal. It is to be recycled thru the agents handling oil disposal.

4. What is the recommended procedure to add several condensate outlets (compressor, receiver, PF, FF, Dryer) to one OWS

Multi inlet adapter (Part no B070007000042) can be used to connect 3 condensate lines, a total of 6 condensate line can be connected to single EOS

5. What is the recommended way to add several modules of OWS (multiplex) with a distributor manifold

Recommended to use when you want to connect single lines to multiple EOS. This situation can arise if you undersized the EOS, or you want to increase the life of the elements by adding further capacity. As seen above there are several reasons sometimes seasonal, when oil carry over can increase.

FAQ

6. When should I use a distributor manifold
Recommended to use when you want to connect single condensate lines to multiple EOS. This situation can arise if you undersized the EOS, or you want to increase the life of the elements by adding further capacity. As seen above there are several reasons sometimes seasonal, when oil carry over can increase.
7. Should the OWS installed below the level of the drain? If not then how high can the OWS be installed when compared to the level of the drain?
OWS installed can be in level of the drain. It is not mandatory to install below the level of the drain, at same time it is not recommended to place EOS above the drain in raised platform
8. How is a fully saturated element changed in the OWS? What is the disposal method?
Refer our operators manual on how to change the saturated element and slide no 10 of PPT shows how to find out if element is saturated. Used
Elements disposal is same as the oil disposal. That is it is recycled thru the agents handling oil disposal.
9. What are the different types of oil the ELGi OWS can handle? Do we have separate part numbers for media to handle other types of oil?
Yes, there are mainly two types of oil classified for EOS handling. One is water soluble (PAG polyalkylene glycol) and other is non water soluble oils like PAO Polyalphaolefin , Mineral oil etc. We use different elements but the same housing for these two types. Refer our Part list for the right ordering code.
10. What happens if I down size or over size the OWS? Can this be related to the replacement frequency if so what is the calculation?
Yes, you can oversize the EOS to get higher life out of the elements. Smaller size will reduce the life of the element and needs to be replaced faster.

Thank You