

Awards:



With the wide-ranging Oventrop programme of heating oil products, the specifying engineer and plumber may fulfil the demands of almost any heating oil installation.

The programme starts with fittings for tank filling, includes oil draining facilities and anti-siphon valves and ends with heating oil filters and heating oil deaerators for the connection behind the burner pump.

Heating oil filters are manufactured in various types (filters for two pipe systems and one pipe systems with/without return flow feed).

A choice of different filter inserts is available.

Heating oil deaerators and the combination consisting of a filter and a deaerator are available for one pipe systems with return flow feed.

Advantages of the Oventrop heating oil equipment:

- various models with different types of connection
- extensive accessories
- TÜV approved
- suitable for bio heating oils, see following remarks

Note regarding liquid fuels:

Heating oil is a liquid fuel produced from fossil mineral oil.

In order to save the fossil deposits, liquid fuels which are extracted from regenerative raw materials, the so-called "alternative additives" or "bio oils", can be added to the heating oil.

These are amongst others bio diesel (FAME = fatty acid methyl esters), RME (rape methyl esters), rape oil, palm oil etc.

The fatty acids of the bio oils may cause damage to conventional seals and hoses.

In general, the components in existing installations can be used for a bio proportion of up to 5 %.

The Oventrop heating oil products marked "A" can be used for up to 20 % "alternative additives" (Example: Marking "A" on the body of the heating oil filter or designation "Toc-Duo-A" on the type plate of the heating oil filter/deaerator combination).



Some components can be used for up to 100 % "alternative additives" (Example: Heating oil filter marked "A" with metal filter cup PN 16 or heating oil deaerator "Toc-Uno-B" made of metal).

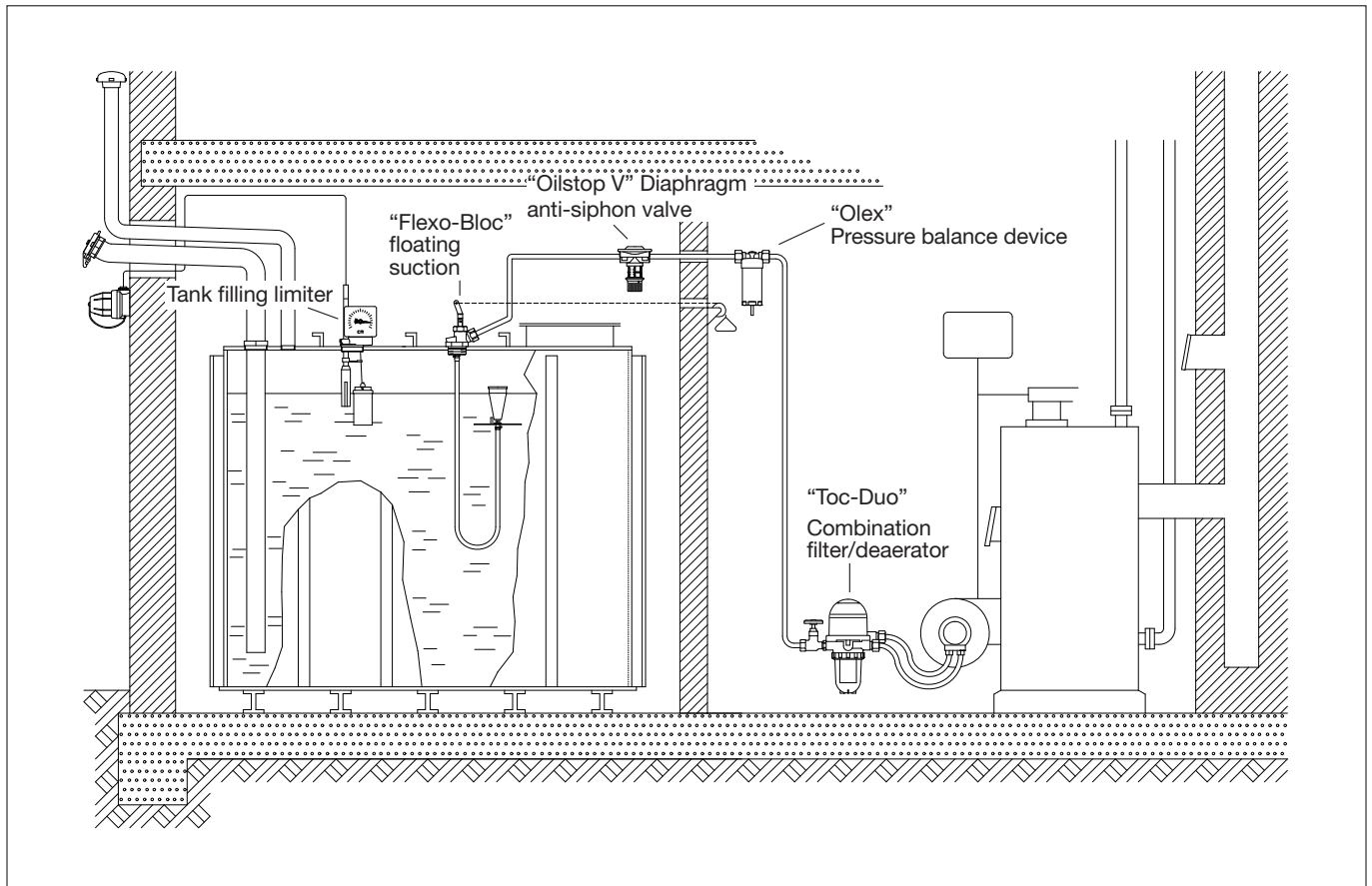


Recommendation when changing to bio heating oil (low-sulphur heating oil with bio proportion):

- The heating oil tank should be empty.
- Before filling, the tank should be cleaned and the residual oil be disposed of.
- A one pipe system is strongly recommended for the pipework.
- Filter inserts with a large filter surface should be used, for instance "Opticlean".
- This does especially apply, if the tank has not been cleaned.

Reasons:

- Bio proportions (FAME) may release existing deposits which may block the filter inserts.
- Heating oil returning in two pipe systems may have an adverse effect on the storage life of the oil.
- The mix of old, sulphurous and new, low-sulphurous heating oil can lead to corrosion at the flame tubes of the burner (metal dusting).





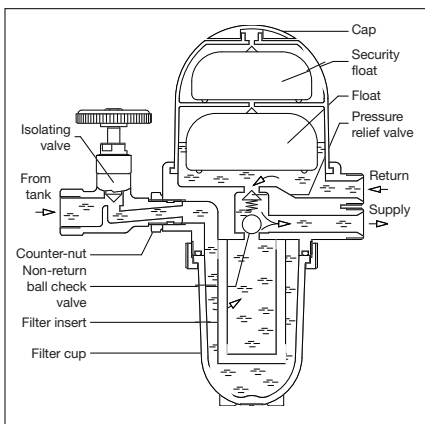
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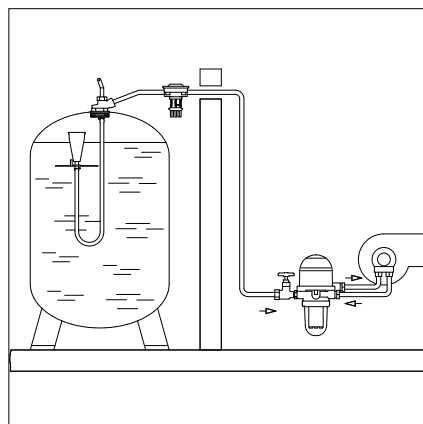
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1 "Toc-Duo" – Combination heating oil filter/heating oil deaerator
The device combines two essential characteristics for a trouble-free function of the heating oil installation:

The heating oil filter cleans the oil and the heating oil deaerator ensures a perfect deaeration of the heating oil.

The "Toc-Duo" is used in heating oil installations (suction system) according to DIN 4755 which are operated as one pipe systems with return flow feed. A return pipe to the tank being no longer required makes the installation not only more cost effective but also safer.

Advantages:

- quick and simple installation
- trouble-free feeding of heating oil to the burner
- no return pipe to the tank required
- "Toc-Duo-A" for bio heating oils with a bio proportion of up to 20 %



- "Toc-Duo-B" (made of metal) for bio heating oils with a bio proportion of up to 100 %



- installation permissible below and above oil level
- high deaeration capacity
- fixing plate for right and left hand side connection
- suitable for areas prone to flooding
- venting device to expel vapour emissions (accessories)
- different filter inserts available

2 "Toc-Duo-Magnum"

With double filter surface for a much longer service life. The filter insert is made of sintered plastic (Siku).

3 "Toc-Duo-Plus" – Combination heating oil filter/heating oil deaerator
Like "Toc-Duo" but with filter cartridge which is fitted with an adapter. The "Toc-Duo-Plus" is equipped with a vacuum gauge for the supply pipe which serves to control the degree of contamination of the filter.

Advantages:

- fine filtering 25 μm
- maximum working life due to enlarged filter surface
- control of filter contamination via pressure gauge during burner operation

4 Function of the "Toc-Duo"

The oil is drawn via the suction pipe, isolating valve and filter. The oil returning from the pump contains air and is therefore fed into a vent pot. The air is expelled and the oil is fed into the supply pipe (example: pump ~50 l/h, consumption at 20 kW ~2 l/h, flow of returned heating oil = 50 - 2 = 48 l/h).

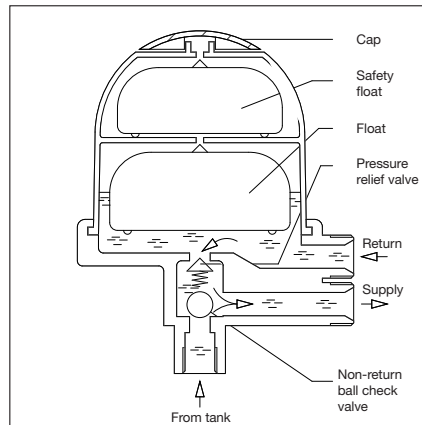
5 System illustration with "Toc-Duo"



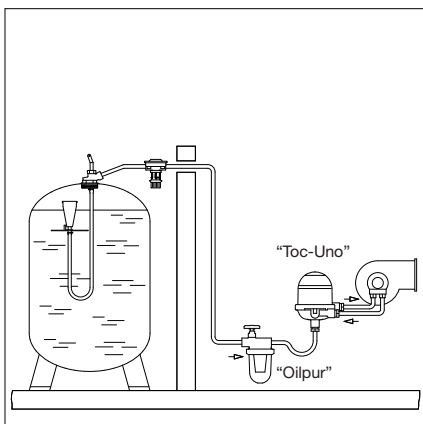
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1 Heating oil deaerator "Toc-Uno"

The heating oil deaerator ensures a trouble-free deaeration of the heating oil. It is used in heating oil installations (suction system) which are operated as one pipe systems with return flow feed – always in combination with a filter for one pipe systems. A return pipe to the tank is no longer required and makes the installation not only more cost effective but also safer.

Advantages:

- quick and simple installation
- trouble-free feeding of heating oil to the burner
- no return pipe to the tank required
- "Toc-Uno-A" for bio heating oils with a bio proportion of up to 20 %



- "Toc-Uno-B" (made of metal) for bio heating oils with a bio proportion of up to 100 %



- installation permissible below and above oil level
- high deaeration capacity
- fixing plate for right and left hand side connection
- suitable for areas prone to flooding
- venting device to expel vapour emissions (accessories)
- lateral outlets

2 Hose nipple with 10 m hose

The deaerator expels gas emissions into the atmosphere which may lead to smell nuisances in badly ventilated boiler-rooms. A hose nipple with a 10 m hose can therefore be connected to expel the emissions to the outside and avoid the smell nuisance.

3 Function of the "Toc-Uno"

The oil is drawn via the suction pipe, isolating valve and filter. The oil returning from the pump contains air and is therefore fed into a vent pot. The air is expelled and the oil is fed into the supply pipe (example: pump ~50 l/h, consumption at 20 kW ~2 l/h, flow of returned heating oil = 50 - 2 = 48 l/h).

4 System illustration with "Toc-Uno" and one pipe filter "Oilpur"



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Heating oil filters "Oilpur" for EL type of heating oil and for bio heating oil with a bio proportion of up to 20 % (Marking "A").



Sizes DN 8, 10, 15 and 20 or G 1/4, G 3/8, G 1/2 and G 3/4.

The female threads G 3/8 on the tank side are suitable for Oventrop compression fittings 6, 8, 10 and 12 mm.

For the direct connection of burner hoses, size DN 10 is also available with male threads G 3/8 with inner taper on the burner side.

The filters can easily be fixed using the brackets and the filter inserts via the bayonet catches.

1 Heating oil filter "Oilpur" for two pipe systems, DN 10 and DN 15. With non-return check valve on the return side. Illustr. with "Magnum" filter insert.

2 Heating oil filter "Oilpur" for one pipe systems with return flow feed, DN 10 and DN 15. With airvent expelling air prior to operation. The airvent is depressurized during normal operation.

3 Heating oil filter "Oilpur" for one pipe systems, DN 8, DN 10, DN 15 and DN 20, with isolating valve.

4 Heating oil filter "Oilpur" for one pipe systems, DN 8, DN 10 and DN 15 without isolating valve. The bracket is not included.

5 Heating oil filter "Oilpur" for two pipe systems, DN 10, with isolating valve. Model with filter cartridge 25 µm fitted with an adapter. Maximum working life due to enlarged filter surface. Suitable for pressurised systems up to 10 bar. All Oventrop filters with bayonet catch can be converted to this filter insert via an adapter.

6 Heating oil filter "Oilpur" for one pipe systems with return flow feed. Model with metal filter cup PN 16. Also suitable for heating oil with a bio proportion of up to 100 %.

By replacing the filter cup of a heating oil filter "Oilpur A" with a metal filter cup, the filter can also be used for heating oil with a bio proportion of up to 100 %.

7 Vacuum gauge for installation in the suction pipe behind the oil filter. The vacuum gauge serves to control the degree of contamination of the filter during burner operation. A subsequent installation is possible without problems.

8 Filter inserts for heating oil filters Made of different materials and with different mesh sizes (see illustr. from left to right):

- Siku (sintered plastic) insert "Magnum": 25–40 µm (or 50–75 µm)
- Niros (stainless steel) insert: 100–150 µm
- Sika (sintered bronze) insert: 50–100 µm (or 25–40 µm or 20–25 µm)
- Siku (sintered plastic) insert: 50–75 µm (or 25–40 µm)
- "Opticlean" fine filter insert made of special paper: 5–20 µm
- Felt insert (classic insert): 50–75 µm
- not illustr. filter cartridge fitted with an adapter: 25 µm
- not illustr. "Opticlean" extra long fine filter insert made of special paper: 5–20 µm

Award for heating oil filters "Oilpur":

Busse Design Ulm
Longlife Design Award



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1, 2 Tank inlet caps for a solid connection of a road tanker hose during filling operation. Also available with green cap (and red tag) for use with low-sulphur EL type of heating oil. The red tag is fixed where both types of heating oil (low-sulphur and standard) are allowed (illustr. 2).

Oventrop does not only offer screwed tank inlet caps but also bayonet connections according to DIN 28450 or DIN EN 14420-6 (not illustr.).

3 Vent cap to protect the heating oil from penetrating rain water and dirt.

4 Fuel gauge locks with screwed cap or as comfortable universal fuel gauge lock

5 Mechanical level indicator to control the oil level. Pneumatic level indicators and accessories are available for underground tanks.



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6 Tank filling limiter to protect the tank from overfilling. They are mandatory for tanks exceeding 1000 litre.

Tank filling limiters for underground and cellar tanks, also in combination with the oil draining facility "Flexo-Bloc" or mechanical level indicator, are also available.

7 Oil draining facility "Flexo-Bloc" for one or two pipe connection. With floating suction or tank filling limiter as an option. For EL type of heating and bio heating oils with a bio proportion of up to 20 % (Marking "A").



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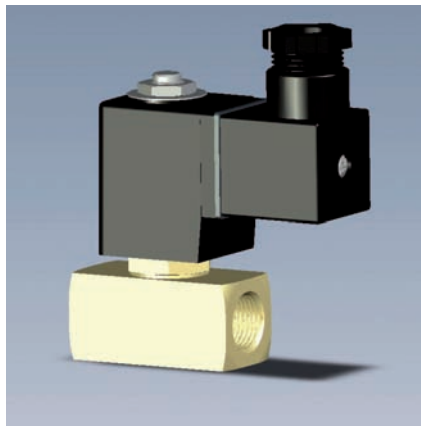


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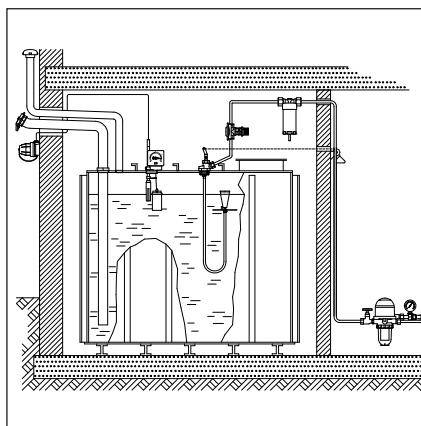
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1 Diaphragm anti-siphon valves "Oilstop"
Diaphragm anti-siphon valves prevent the oil in the tank being siphoned off if a leakage in the suction pipe occurs. The valves can be used for EL type of heating oil and bio heating oil with a bio proportion of up to 20 % (Marking "A").



Diaphragm anti-siphon valves are available as "Oilstop V" with infinitely adjustable safety height between 1 and 4 m and as "Oilstop F" with fixed safety height (1.8, 2.4, or 3.0 m).

The female threads G 3/8 are suitable for Oventrop compression fittings 6, 8 and 12 mm.

Awards "Oilstop V":



Industrial Forum Design Hanover
Design Award Schleswig-Holstein



Design-Award Switzerland

2 Solenoid valve "Oilstop MV"
Closed with current "off". Suitable for EL type of heating oil and bio heating oil with a bio proportion of up to 100 %.



3 Isolating fitting
Both ports couplings 6, 8, 10, 12, 15 and 18 mm.

To avoid any harmful effects of galvanic and vagrant current, the DIN standard 4755 recommends the installation of such isolating fittings.

4 Quick acting isolating valve
Both ports with couplings 6, 8, 10, 12 and 15 mm.
Also suitable for liquid gases.

5 Double change-over valve (ball type)
For the connection of two storage tanks to one burner in a two pipe system. The basic valve has to be equipped with connection sets (6-fold) for 8, 10, 12, 15 and 18 mm pipes. Suitable for EL type of heating oil and bio heating oil with a bio proportion of up to 20 % (Marking "A").



6 Change-over valve
Both ports with couplings 6, 8, 10 and 12 mm. For the connection of two storage tanks to one burner.

7 Pressure balance device "Olex"
Pressure balance device according to DIN EN 12514-2.

After inactivation of the burner, the oil in the suction pipe between the non-return check valve at the tank and the valve at the burner pump may become trapped. If the oil in the pipework warms up, it expands and pressure increases.

The expanding oil is absorbed by the pressure balance device and an inadmissible pressure increase is avoided.

The female threads G 3/8 are suitable for Oventrop compression fittings 6, 8, 10 and 12 mm.

8 System illustration with diaphragm anti-siphon valve "Oilstop V" and pressure balance device "Olex".



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Many Oventrop heating oil products with female thread G 3/8 are suitable for the direct connection to copper pipes using the Oventrop compression fittings 6, 8, 10 and 12 mm.

Metal squeeze or cutting ring connections do not only guarantee tightness but also tensile strength.

1 Compression fittings 6, 8, 10 and 12 mm (suitable for Oventrop heating oil products with female thread G 3/8). Illustr.: 12 mm

2 Reinforcing sleeve for copper pipe with a wall thickness of 1 mm

3 Couplings for oil pipes according to DIN 4755 made of brass and steel.

Straight couplings, elbow coupling and T-coupling. The steel models are equipped with a brass cutting ring and comply with the series L according to DIN 2353. They are also suitable for compressed air, hydraulic and propane gas.

4 Straight and angled double nipples for the connection of heating oil hoses to the burner or valves.

5 Flexible hoses according to DIN EN 6806 for heating oil installations according to DIN 4755. The flexible hoses are also suitable for heating oils with a bio proportion of up to 20 % and as special model also up to 100 %.