

OME 25 S

Séparateur de brouillard
Standard oil mist eliminator
Standard Ölnebelabscheider



Manuel de l'utilisateur User's manual Betriebshandbuch

Chemtech Scientific provides access to this content as a courtesy.
We do not own the content contained in this document.
All rights and credit go directly to its rightful owners.
www.chemtechsci.com
Call us at: 484-424-9415



II. Standard oil mist eliminator

II.1. Description

The oil mist eliminator is mounted at the exhaust of the rotary vane pump and separates oil droplets and vapours in the exhaust gases emitted by the oil-sealed vacuum pumps.

When the eliminator is mounted vertically above the pump, the condensed oil is recovered by flowing back through the cartridge into the oil case, if the inlet pressure is less than 0.75 Torr for a sufficiently long time.

The eliminator has a safety valve set to 375 Torr relative pressure which prevents overpressure in the pump oil case when the cartridge is saturated. Do not allow solid or pasty deposits issuing of pumped vapours to stick the valve to the filter cartridge.

II.2. Characteristics

Part number	: 104200 (Model OME 25 S)
Weight	: 0.478 lbs
Connection	: DN25 ISO-KF
Material	: body : polyamide cartridge : glass microfibers and epoxy resin
Tightness	: 5×10^{-3} atm.cm ³ .s ⁻¹
Mounting on pump	: nipple marked with : " Pump ↓" label
Dimensions	: see figure 3 page 18

Equipped with	Ref.	P/N
1 elbow fitting DN25 ISO-KF	(A)	104113
1 centering ring DN25 ISO-KF	(B)	068597
1 O-ring DN25 ISO-KF	(C)	079238
1 quick connect clamp DN25 ISO-KF	(D)	083264

II.3. Assembly

Two assembly possibilities exist, depending on the pump location and nipple accessibility.

Case 1 : the oil mist eliminator is mounted on the exhaust port located vertically on the pump.

Proceed as follows :

- **Remove the vent valve 150** mounted in the exhaust port **120**.
- Assemble as shown in **figure 1** using the connection accessories provided with the eliminator.

If the vertical position of the pump does not permit direct installation, an offset assembly using the elbow fitting **Ⓐ** may be used to bring the exhaust axis to horizontal.

Proceed as follows :

- Unscrew the 4 nuts **15**, while at the same time manually pressing each end of the eliminator (**to avoid sudden release of the spring**), and remove the 4 screws **13**.
- Remove the upper nipple **2** on the **valve spring side**.
- Install the elbow fitting **Ⓐ** in place of the straight nipple and assemble using the mounting screws.

In both cases :

- The oil mist eliminator can be connected far from the pump.
- Use a suitable diameter of pipe between pump and oil mist eliminator.

In all cases :

- **Connect the nipple marked with the " Pump ↓" label** on the exhaust side of the pump.

If the oil mist eliminator is connected to a chimney or ventilating duct, check to be sure the pressure loss in this equipment does not exceed 375 Torr.

Note : If necessary, you can order separately an offset elbow **Ⓐ** to obtain an horizontal pumping line.

Case 2 : the oil mist eliminator is mounted on the exhaust port located horizontally on the pump.

Proceed as follows :


- **Remove the vent valve 150** mounted in the pump exhaust port **120**.
- Remove the horizontal flange **140**.
- Reverse the positions of the nipple **120** and the flange **140**. Reinstall screws **110**.
- Unscrew the 4 nuts **15**, while at the same time manually pressing each end of the eliminator (**to avoid sudden release of the spring**), and remove the 4 screws **13**.

- Remove the lower nipple **2** on the **side opposite the spring**.

- Install the elbow fitting **Ⓐ** in place of the straight nipple and assemble using the mounting screws.

- Assemble as shown in **figure 1** using the connection accessories provided with the eliminator.

II.4. Maintenance

 Each time the system is dismantled, take all necessary precautions to ensure safety and protection of personnel against possible toxicity, corrosion and radioactivity of residues. Depending on the nature of the residue, we recommend :

- Purging the system with dry nitrogen before working on it.
- Wearing gloves, goggles and, if necessary, an oxygen mask.
- Thorough ventilation of the room and disassembly under a fume hood.
- Recovery of residue in appropriate containers. If necessary, have them destroyed by a competent organization.

a) Cartridge saturation :

If excessive fumes or droplets, or bursts of steam appear at eliminator outlet, the cartridge is saturated.


The time taken to reach saturation point depends on the number of pumping operations, their frequency, the volume of pumped gas and the kind of the oil used. When the cartridge is saturated, replace as follows :

b) Disassembly (figure 2) :

- Detach the eliminator from the pump and disassemble on a workbench.
- Unscrew the 4 nuts **15**, while at the same time manually pressing each end of the eliminator (**to avoid sudden release of the spring**), and remove the 4 screws **13**.
- Remove successively and in the

following order, the upper nipple **2** (or elbow fitting **A**) and its O-ring seal **7**, the spring **5**, the valve **4** equipped with its flat ring **6**, the cartridge **8** and the flat ring **6**, then the lower body and its O-ring.

c) Cleaning :

 **Never clean the filter cartridge: always install a new one.**

Elastomer seals **6** and **7** must always be replaced by new seals.

After use in mineral oil, clean the components with a mineral products based solvent such as **AXAREL** ⁽¹⁾, **CARECLEAN** ⁽²⁾, **PREMACLEAN** ⁽³⁾ or **NAPHTEOL** ⁽⁴⁾.

Proceed as follows:


- Clean when cold or hot (max. 45°C) by dipping or using a cloth,
- Vacuum dry in a ventilated oven.

d) Reassembly :

- Insert the flat ring **6** in the base of the body **1**.
- Install the cartridge **8** so that it rests on the flat ring **6** in the body **1**.
- Assemble the new O-ring **7** on the lower and upper nipples.
- Assemble the flat ring **6** on the valve **4** and install the unit on the cartridge, with the flat ring resting on the cartridge.
- Position the spring **5** on the valve **4**.
- Position the body thus assembled **1** on the lower nipple : the latter can be identified by the direction of the arrow on the "Pump ↓" label.
- Assemble the upper nipple on the spring **5** and assemble using the mounting screws **13, 14, 15**.
- Connect the eliminator to the pump exhaust port (see paragraph II.3.).

II.5. Applications not recommended

Use of an oil mist eliminator is not recommended in the following cases: drying, freeze-drying, pumping condensable vapours, impregnation with polymerizable resins, and debubbling monomers.

 **Filter cartridges are flammable: do not use eliminators when pumping flammable products such as oxygen or silane.**

The standard oil mist eliminator must also not be used for pumping corrosive products or for microelectronic and chemical applications.

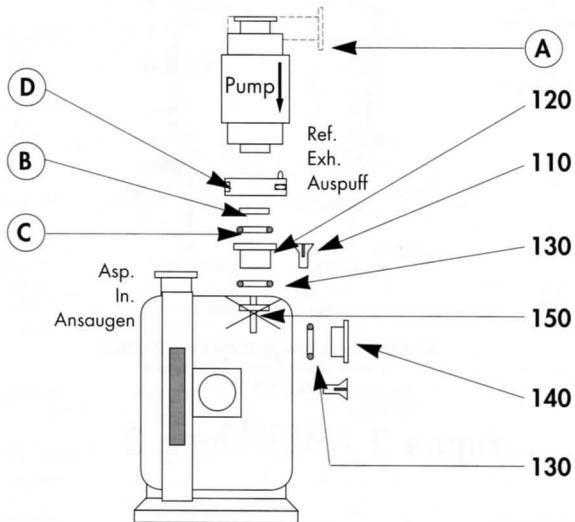
II.6. Spare parts

Parts which must be replaced each time the cartridge is changed :

Reference	Number	Part name	Part number
8	1	Filter cartridge	068304
6	2	Flat ring	052117
7	2	O-ring	079015

Figures 1 / Abbildungen 1

Cas 1/ Case 1/ Fall 1



Cas 2/ Case 2/ Fall 2

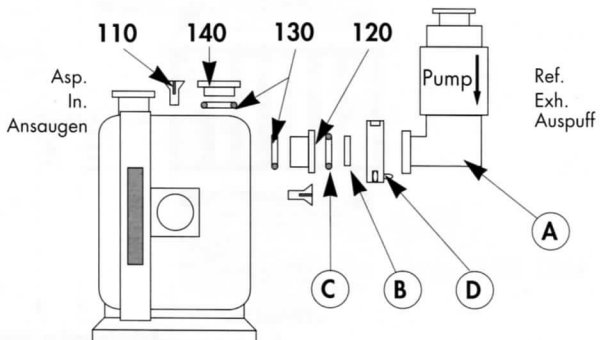
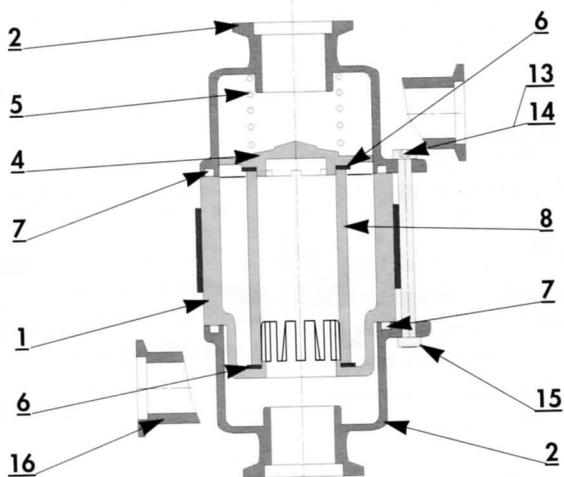
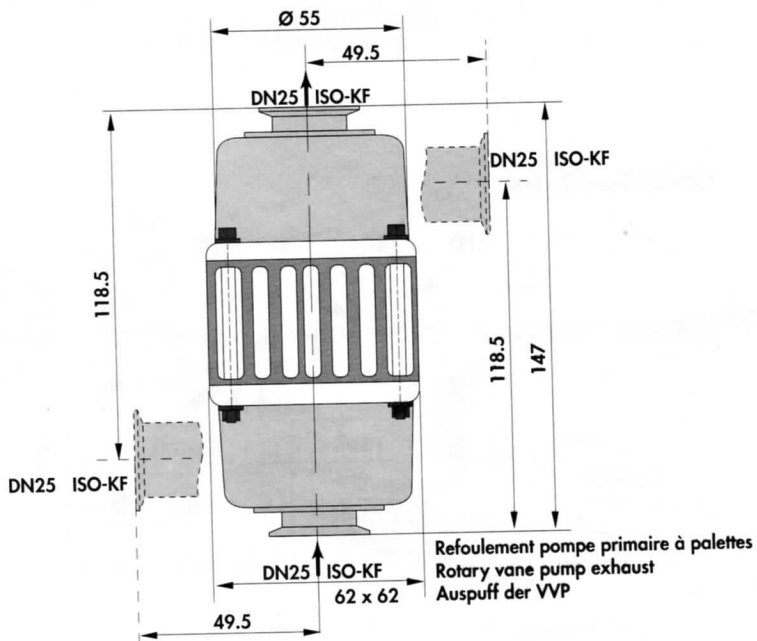


Figure 2 / Abbildung 2



Raccordement Pompe Primaire à Palettes
Rotary Vane Pump Connection
Anschluß VVP

Figure 3 / Abbildung 3



Nomenclature / Nomenklatur

Repère Ref. Item	Désignation Matériau	Description Material	Benennung Werkstoff	Référence P/N Bestell Nr.	Quantité Number Quantität
<u>1</u>	Corps polyamide	Body polyamid	Gehäuse polyamid	-	1
<u>2</u>	Embout droit polyamide	Upper nipple polyamid	Gerader Anschlußstutzen polyamid	-	2
<u>4</u>	Clapet polyamide	Valve polyamid	Klappe polyamid	-	1
<u>5</u>	Ressort acier	Spring steel	Feder Stahl	-	1
<u>6</u>	Joint Plat élastomère FPM*	Flat ring elastomer FPM*	Flachdichtung elastomer FPM*	052117	2
<u>7</u>	Joint Torique élastomère NBR*	O-ring elastomer NBR*	Dichtung elastomer NBR*	079015	2
<u>8</u>	Cartouche époxy résine + microfibres de verre	Cartridge epoxy resin + glass microfibers	Filtereinsatz Epoxydharz + Mikroglassfaser	068304	1
<u>13</u>	Vis acier	Screw steel	Schraube Stahl	-	4
<u>14</u>	Rondelle acier	Washer steel	Unterlegscheibe Stahl	-	8
<u>15</u>	Ecrou acier	Nut steel	Mutter Stahl	-	4
<u>16</u>	Embout d'équerre polyamide	Elbow fitting polyamid	Winkel polyamid	-	1