

Mineral Oil Separator GEA Westfalia Separator etype OSE

Technical Data | Continuous treatment of fuel and lube oils

OSE 5, OSE 10, OSE 20, OSE 40, OSE 80, OSE 120
with GEA Westfalia Separator **unitrol**plus system

GEA Westfalia Separator **eagle**class



The GEA Westfalia Separator etype separators are equipped with a GEA Westfalia Separator **softstream** inlet system for gentle product treatment. This results in optimum separating efficiency and higher specific capacities. The patented GEA Westfalia Separator **hydrostop** system of the GEA Westfalia Separator etype separators enables controlled bowl ejections to be carried out at full operating speed.

Frame, hood and drive

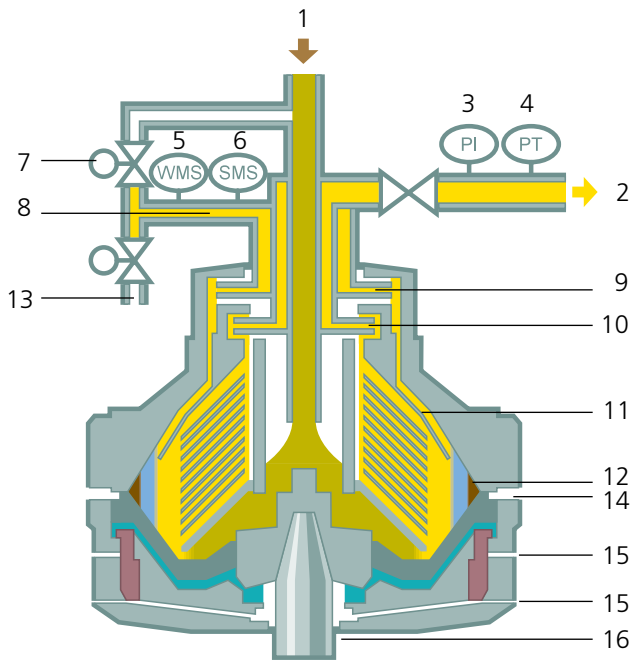
The separators are of enclosed design and meet the requirements of the classification societies. The separators are driven by a 3-phase AC motor. Power is transferred to the bowl spindle via a centrifugal clutch and a flat belt. All bearings are splash-lubricated from a central oil bath.

Application

Mainly on board of ships, in power stations, industry and oilfield.

Technical Data Mineral Oil Separators etype OSE

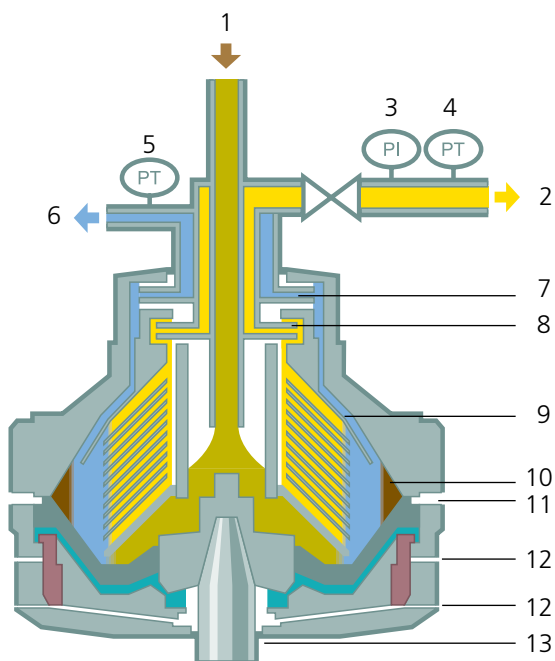
Operating principles and constructional features



OSE... -0136-067

OSE... -0196-067

- 1 Dirty oil feed/displacement water feed
- 2 Clean oil discharge
- 3 Pressure gauge
- 4 Pressure transmitter
- 5 WMS sensor
- 6 SMS sensor
- 7 Solenoid valve (circulation)
- 8 Sensing liquid line
- 9 Centripetal pump, sensing liquid
- 10 Centripetal pump, clean oil
- 11 Separating disc
- 12 Sludge holding space
- 13 Dirty water discharge
- 14 Sludge discharge
- 15 Operating water discharge
- 16 Operating water feed



OSE... -91-067

- 1 Dirty oil feed/displacement water feed
- 2 Clean oil discharge
- 3 Pressure gauge
- 4 Pressure transmitter
- 5 Pressure transmitter
- 6 Dirty water discharge
- 7 Centripetal pump, dirty water
- 8 Centripetal pump, clean oil
- 9 Separating disc
- 10 Sludge holding space
- 11 Sludge discharge
- 12 Operating water discharge
- 13 Operating water feed

Separators OSE... - 0136 - 067 /

OSE... - 0196 - 067 with GEA Westfalia Separator **unitrolplus** system

The centrifuges are equipped with a self-cleaning disc-type bowl. They are employed for clarification and purification in fuel oil (up to a density of 1.01 g/ml) and lube oil treatment plants. The oil is conveyed to the centrifuge by means of a separate pump. The feed (1) is via a closed line system. The clean oil is discharged under pressure (2) by means of a centripetal pump (10). The centrifuges operate without regulating rings.

GEA Westfalia Separator **unitrolplus** system

The separators with GEA Westfalia Separator **unitrolplus** system are provided with two monitoring systems:

- Water Monitoring System – WMS
- Sludge Monitoring System – SMS

Water Monitoring System (WMS)

The small volume of liquid (8) which is branched off via the separating disc (11) and the sensing liquid pump (9) is monitored by the WMS sensor (5).

If the WMS sensor registers water, the solenoid valve (10) opens and the water flows off through the dirty water discharge (13). As soon as the WMS sensor detects a change brought about by an increased proportion of oil, the solenoid valve (10) closes and the solenoid valve (7) opens intermittently. The sensing liquid flow (8) is recycled into the feed (1).

Sludge Monitoring System (SMS)

A small amount of product (8) is diverted via the separating disc (11). It is conveyed by the sensing liquid pump (9) through the SMS sensor (6) and is fed back into the feed line (1) of the centrifuge. If this flow of sensing liquid is interrupted by solids accumulated in the sludge space (12), the SMS sensor (6) transmits a pulse to the control unit and the automatic ejection program is initiated. The control and monitoring unit guarantees unsupervised operation “round-the-clock”.

Separators OSE... - 91 - 067

The separators are equipped with a self-cleaning disc-type bowl. They are employed for clarification and purification in fuel oil (fuel oil up to a density of 0.991 g/ml) and lube oil treatment plants. The product (1) is fed in through a system of closed lines. The heavy liquid phase (6) is pressure discharged by means of a centripetal pump (7). The clean oil (2) is also discharged by means of a centripetal pump (8). The centrifuges operate with regulating rings for the heavy phase.

Materials of construction

- Frame: grey cast iron
- Hood: Silumin
- Main bowl parts: stainless steel

Standard equipment

- 3-phase AC motor
- Rubber cushions with welding plates
- Flexible feed and discharge lines
- Pressure gauge
- Pressure transmitter clean oil discharge
- Valve block for operating, filling and displacement water
- 1 set of commissioning parts
- Ejection monitoring
- Motor temperature monitoring

Additional equipment

(available at extra cost, must comply with the specification of GEA Westfalia Separator Group)

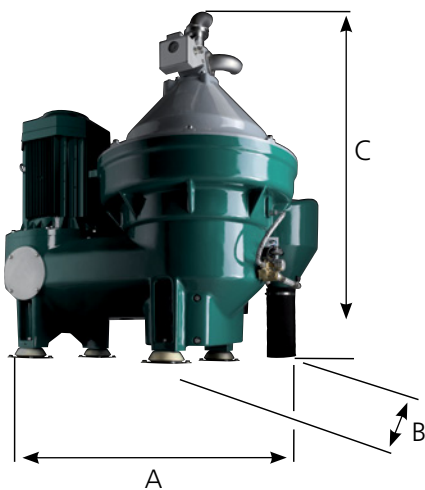
- Motor control
- Control unit for automatic operation
- Pump
- Prestrainer
- Preheater
- Automatic steam valve
- Shut-off valve
- Controls for electric heaters
- Set of tools
- Set of spare parts
- Vibrocontrol
- Product temperature monitoring
- Flow indicator
- 3/2 way valve

Technical Data Mineral Oil Separators etype OSE

Operating principles and constructional features

3-phase AC motor	OSE 5	OSE 10	OSE 20	OSE 40	OSE 80	OSE 120
Rating at 50Hz	up to 4.0 kW	up to 4.0 kW	up to 7.5 kW	up to 18.5 kW	up to 30.0 kW	–
Rating at 60 Hz	up to 4.6 kW	up to 4.6 kW	up to 8.6 kW	up to 21.0 kW	up to 35.0 kW	up to 60.0 kW
Speed at 50Hz	3000 rpm	3000 rpm	3000 rpm	3000 rpm	1500 rpm	–
Speed at 60 Hz	3600 rpm	3600 rpm	3600 rpm	3600 rpm	1800 rpm	1800 rpm
Type	IMV1	IMV1	IMV1	IMV1	IMV1	IMV1
Type of	IP55	IP55	IP55	IP55	IP55	IP55
Centripetal pump						
Pressure	1.0 bar	1.0 bar	1.0 – 2.0 bar	2.0 bar	2.0 bar	2.0 – 3.0 bar
Weights and shipping data						
Separator complete	150 kg (331 lb)	205 kg (452 lb)	320 kg (705 lb)	1060 kg (2337 lb)	1620 kg (3571 lb)	2500 kg (5511 lb)
Case dimensions mm/inch (L x W x H)	1100 x 600 x 1000 43 x 24 x 39	1280 x 700 x 1030 50 x 28 x 41	1300 x 870 x 1030 51 x 34 x 41	1800 x 1000 x 1400 71 x 39 x 55	1800 x 1050 x 1600 71 x 41 x 63	2000 x 1500 x 2100 79 x 59 x 83
Shipping volume	0.66 m ³	0.92 m ³	1.17 m ³	2.50 m ³	3.00 m ³	6.00 m ³

Capacities, for optimum throughputs refer to table of capacities.



Dimensions in mm (inch)

Type	A	B	C
OSE 5	760 (30)	401 (16)	759 (30)
OSE 10	846 (33)	544 (21)	880 (35)
OSE 20	1005 (40)	550 (22)	1009 (40)
OSE 40	1283 (51)	737 (29)	1288 (51)
OSE 80	1611 (63)	867 (34)	1503 (59)
OSE 120	1778 (70)	1190 (47)	1942 (76)