

VIEW OUR INVENTORY

Sogevac SV28 BI

Single-stage, oil-sealed
Rotary Vane Pump

Operating Instructions GA02331_002_01

Part Numbers

960 270 - 960 273

960 276 - 960 278



Contents

Installation and operating instructions

These installation and operating instructions are valid for the SOGEVAC pumps SV28 BI in their standard version.

Special versions to these pumps are delivered with an additive document, which prevails over the standard instructions.

The SOGEVAC vacuum pumps have been manufactured according to the latest technical standards and safety regulations. If not installed properly or not used as directed, dangerous situations or damage could occur.

It is mandatory that these operating instructions be read and understood prior to vacuum pump installation and start-up.

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General Instructions

1 General Instructions

1.1 Safety instructions

In this paragraph, the most important safety and usage instructions for the SOGEVAC pumps are listed. Ahead of each following paragraph of the manual, the numbers of the applicable safety instructions will be listed.

1.1.1

SOGEVAC pumps are not designed:

- . for pumping of aggressive, corrosive, flammable or explosive gases or gases mixtures ;
- . for pumping of oxygen or other highly reactive gases with a greater concentration than atmospheric concentration (>20%) ;
- . for working in flammable or explosive environment. For all these cases, special materials must be used. In case of doubt, please contact Oerlikon Leybold Vacuum.

See also the limits of use indicated in the EC Declaration of Conformity.

1.1.2

Liquid and solid particles must not enter the pump. Install the adequate filters, separators and/or condensers. In case of doubt consult Oerlikon Leybold Vacuum.

1.1.3

The intake line of the pump must never be connected to a device with over atmospheric pressure. Size of the exhaust line so that no pressure higher than 1,15 bar abs. (0,15 bar rel.) or depression of 15 mbar (0,15 bar rel.) can occur

1.1.4

Operating of the pump without oil or operating with incorrect sense of rotation can destroy the pump.

1.1.5

Never expose part of the body to the vacuum. There is a danger of injury. Never operate the pump with an open and thus accessible inlet. Vacuum connections as well as oil filling and oil draining openings must not be opened during operation of the pump.

1.1.6

When operating pump is hot and some surfaces could reach a temperature higher than 80°C (176°F). There is a risk of burn by touching.

Switch off the pump and let it cool down before any intervention or take appropriate precautions.

1.1.7

Depending on the process involved, dangerous substances and oil may escape from the pump. Take the necessary safety precautions !

1.1.8

Observe the safety regulations !

Never use discarded seals. Always assemble using new seals.

Respect the instructions concerning environment protection when discarding used oil or exhaust filters !

Warning



General Instructions

1.2 Application range

See prescriptions chapters 1.1.1. and 1.1.2.

SOGEVAC pumps are designed for pumping of inert gases in the range of medium vacuum, between atmospheric pressure and ultimate pressure of the pump.

Indoor use up to 1000 m altitude and rel. humidity $\leq 95\%$ without condensation

When removing condensable vapours, a gas ballast valve must be installed, or opened.

1.3. Principle of operation

The SOGEVAC pumps SV28 BI are single-stage oil sealed rotary vane vacuum pumps. The rotor, having three slots in which the vanes are sliding, is eccentrically installed in a pump cylinder (stator).

The vanes separate the interior space into 3 chambers. The volume of these chambers varies with the rotation of the rotor.

The gas sucked into the inlet chamber is compressed and then pushed out at the exhaust valve.

The oil injected in the inlet chamber guarantees the air-tightness, the lubrication and cooling of the pump. It is dragged off by the compressed gases and roughly separated by gravity when entering in the oil sump. A fine separation is then operated in the exhaust filter. The exhaust filter retains $> 99,9\%$ of the aerosols. An internal transfer pushes the collected oil back into the vacuum generator, the transfer is operated by a float valve to avoid atmospheric air coming from the oil casing to the inlet of the pump when no oil is present in the recovery system.

The oil circulation functions by differential pressure.

Depending on catalog numbers, the pumps are equipped with a gas ballast valve for pumping condensable vapours.

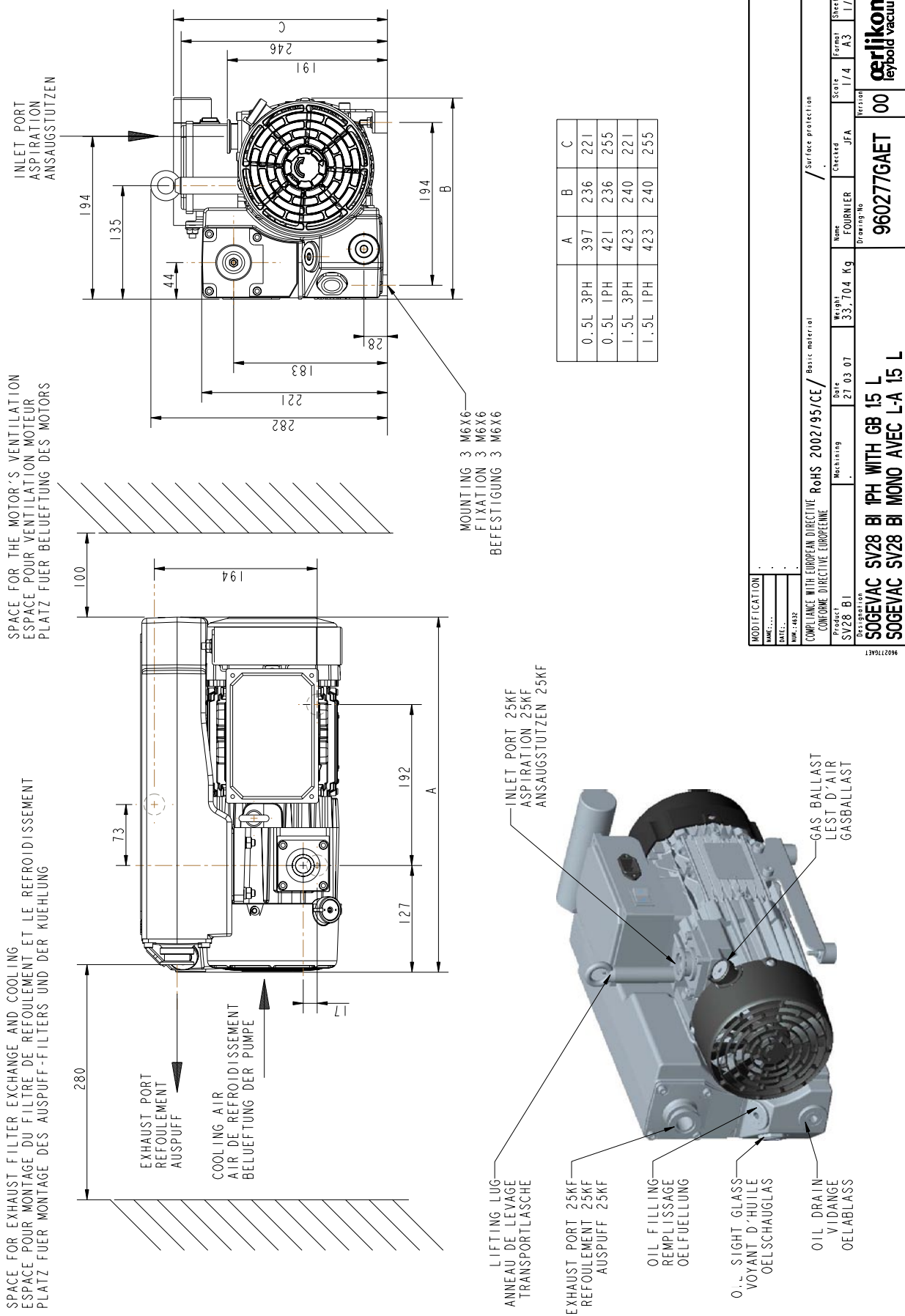
The anti suckback valve at the inlet flange avoids oil coming back into the inlet line when the pump is stopped. This is valid for working pressures below 100 mbar and under the condition that the valve is kept clean and in good condition. The anti suck-back valve is not a safety valve. If oil back flowing is to be avoided by all means, it is necessary to mount a separate safety valve on the pump inlet

General Instructions

1.4 Technical Characteristics

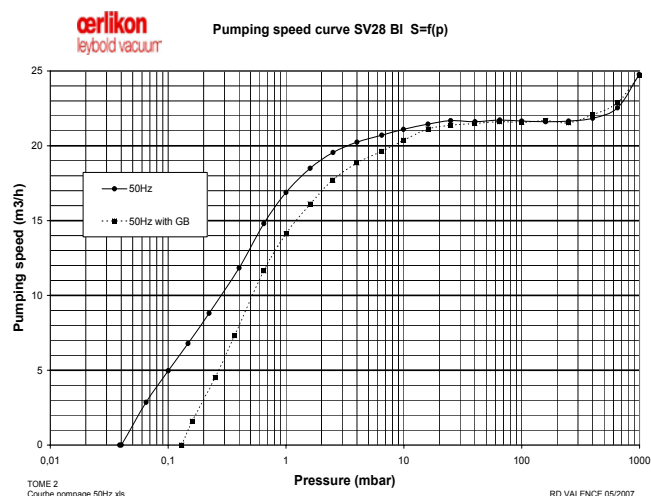
		50Hz	60Hz
Nominal pumping speed	m ³ .h ⁻¹	25	30
Pumping speed (according to Pneurop)	m ³ .h ⁻¹	23	27
Ultimate partial pressure without gas ballast	mbar	≤ 0,05	≤ 0,05
Ultimate total pressure with small gas ballast	mbar	≤ 0,5	≤ 0,5
Water vapour tolerance with small gas ballast	mbar	10	10
Water vapour tolerable load with small gas ballast	kg.h ⁻¹	0,07	0,08
Noise level (according to DIN 46635)	dB(A)	54	57
Main voltage (standard) AC ~	V	230/400 (+/- 10%)	460 (+/- 10%)
Motor power - Rated rotational speed	kW	0,75-1430 (3φ)	0,9-1720 (3φ)
Protection - Isolation		IP55 - F IP54-F for single-phase motors	IP55 - F
Leak rate	mbar.l.s ⁻¹	1.10 ³	1.10 ³
Oil type / Capacity	l	GS32 / 0,5l or 1,8l	
Intake connection		25 KF	25 KF
Exhaust connection		25 KF	25 KF

Pump with three-phase motor, without gas ballast, small oil casing 230 V/400 V, 50Hz ; 460 V, 60Hz	960 270
Pump with three-phase motor, gas ballast, small oil casing 230 V/400 V, 50Hz ; 460 V, 60Hz	960 271
Pump with three-phase motor, without gas ballast, big oil casing 230/400V, 50Hz ; 460V 60Hz	960 272
Pump with three-phase motor, gas ballast, big oil casing 400 V, 50Hz ; 230/460 V, 60Hz	960 273
Pump with single-phase motor wide range, gas ballast, small oil casing 180-264V, 50/60Hz	960 276
Pump with single-phase motor wide range, gas ballast, big oil casing 180-264V, 50/60Hz	960 277
Pump with JP and USA single-phase motor, gas ballast, big oil casing 100V -15/+10%, 50/60Hz & 115V -15/+10%, 60Hz	960 278

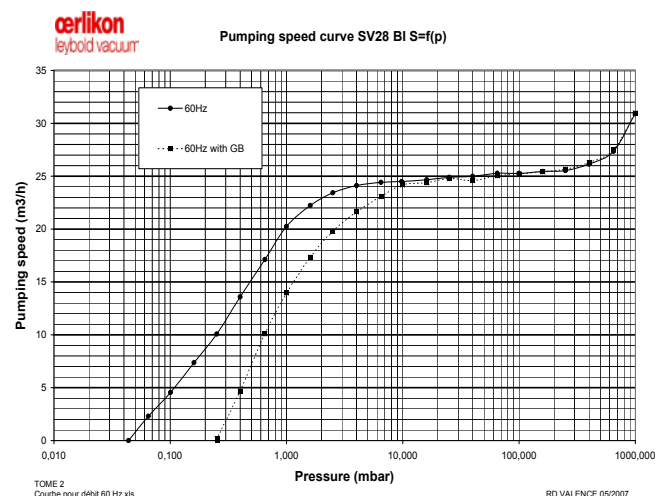


General Instructions

Pumping speed curves



at 50Hz



at 60Hz

— without gas ballast

- - - with gas ballast

1.5 Accessories

For the accessories, please refer to the Oerlikon Leybold Vacuum General Catalogue chapters C01 and C13.

Kit anti suck back valve	9 714 62 600
Gas ballast kit	9 714 62 640
Set of seals	9 714 62 670
Float valve kit	9 714 62 660
Rubber feet kit	9 714 62 650
3 phase motor flange kit	9 714 62 630
Stator kit	9 714 62 620
Complete oil casing 0.5 l	9 714 49 400
Complete oil casing 1.5 l	9 701 54 140
Repair kit	9 714 62 690
Vacuum generator three phase pump	9 714 62 620
Vacuum generator single phase pump	9 714 62 630
Oil level switch	upon request no retrofit possible

1.6 Transport and Packing

SOGEVAC vacuum pumps pass a rigorous operating test in our factory and are packed to avoid transport damages.

Please check packing on delivery for transport damages.

The outer package bears a shock indicator, turning red at 50 g. Should the shock indicator have reacted, a transportation damage may have occurred and the freight forwarder must be advised.

Packing materials should be disposed off according to local environmental laws or re-used.

Installation

These operating instructions are part of the consignment. The connection ports are blanked off by plastic protective caps or self-adhesives. Take these caps or self-adhesives away before turning on the pump.

The necessary oil is supplied in a can beside the pump.

1.7 Mounting orientation and storage

1.7.1 Mounting orientation :

See required space on chart in paragraph 1.4. Pumps which have been filled with operating oil must only be moved in the upright position (horizontally). Otherwise oil may escape. The angle of slope may not be over 10° max. Avoid any other orientations while moving the pump.

1.7.2 Storage

Before stocking the pump for a long time put it back in its original condition (blank off inlet and exhaust ports with the shipping seals, drain the oil sump) and store the pump in a dry place at room temperature. A storage period exceeding one year requires a pump maintenance. Please contact Oerlikon Leybold Vacuum's customer service.

Storage temp. : - 15°C to + 60°C.

1.8 Lubricants

The SOGEVAC SV28 BI pumps should be run with mineral oils for vacuum pumps with low viscosity according to ISO category VG32. The Oerlikon Leybold Vacuum oil GS32 corresponds to these prescriptions.

GS32 Oil

Conditioning	Reference
1l	711 17 772
2l	711 17 723
5l	711 17 724
20l	711 17 725

You may use other special lubricants adapted to the applications. Please consult us.

2 Installation (see chapter 1.1)

It is essential to observe the following instructions step by step to ensure safe start-up. Start-up may only be conducted by trained specialists.

2.1 Setting-up

The pump must be set up or mounted horizontally on a flat surface. Special mounting is not required.

The following ambient operating environment must be observed :

. Ambient temperature: 15°C to 40°C (59°F to 104°F),

. Ambient pressure = Atmospheric pressure.

In order to avoid over-heating of the pump, an undisturbed fresh airflow to the pump is necessary.

2.2 Inlet connection (see chapter 1.1)

The inlet flange can be connected with a vacuum-tight flexible hose and/or pipe. The pipes should cause no stresses on the pump's flanges. If necessary, compensators must be installed.

Restriction of the pipes must be avoided in order not to decrease the pumping speed of the pump. The nominal diameter of the pipes has to be at least the same as the diameter of pump's inlet flange.

When removing condensable vapours, a gas ballast valve must be installed or opened.

The inlet pressure must not be above atm. pressure.

2.3 Connection to exhaust side

No isolation or restricting devices should be installed in the exhaust line of the pump. If an exhaust line is installed, it must at least have the same diameter as the exhaust flange. It should be installed in a manner so that no condensate can enter the pump (siphon, slope).

Warning: The maximum exhaust pressure must neither exceed 1.15 bar absolute (0.15 bar relative), nor fall under atmosphere pressure minus 15 mbar.

2.4 Oil filling (see chapter 1.1.4)

The necessary oil is supplied in a can beside the pump. To fill in the oil, unscrew the oil fill plug and fill in until the oil level reaches the "MAX" mark beside the oil sight glass.

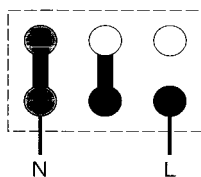
2.5. Electrical connection (see chapters 1.1.4 and 1.1.5)

The electrical installation may only be conducted by a specialist. Local regulations have to be followed.

. Voltage and frequency mentioned on the motor nameplate must correspond with the supply voltage and frequency.

. The drive motor must be protected against overloads according to local regulations and IEC 60204-1.

. To check the direction of rotation of pumps, flick pump on. If the direction of rotation is not identical with the one indicated by the arrow sticking on the motor hood, then inverse any two of the 3 electrical phases in the terminal box. Looking at the motor fan cover, the direction of rotation has to be counter-clockwise.

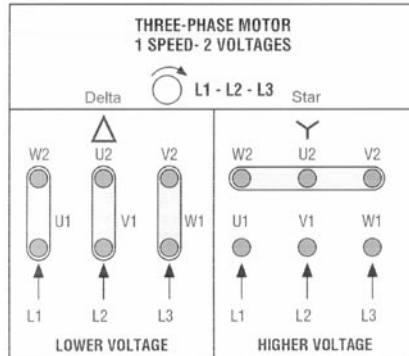


single-phase connection diagram

Warning



Installation



3-phase connection diagram

2.6 Operating advices (See chapters 1.1.1, 1.1.2, 1.1.3 and 1.2)

When removing condensable vapours, a gas ballast valve must be installed or opened.

The vacuum pump must be run for 30 minutes prior to operation with the inlet connection closed, in order to reach the operating temperature of about 75°C. Only up from this operating temperature, condensable vapours can be transported. After use, the pump has to be left running for an additional 30 minutes with the inlet connection closed and open gas ballast, to clear the oil of condensate.

2.7 Shutdown

The inlet flange of the SOGEVAC pumps contains an anti-suck back valve. It closes the inlet flange when the pump is voluntarily or accidentally shut down, thus maintaining the vacuum in the connected system and preventing oil from being sucked back into the system.

Except the indications in chapter 2.6 (operating advices) there are no particular precautions for the shutdown of the pump.

If the pump must be stopped for a longer period, see chapter 1.7.

3 Maintenance (see chapter 1.1)

The vacuum pump must be switched off and secured against accidental switch-on for all maintenance jobs. All work must be done by suitably trained personnel.

The following maintenance-schedule shows the regular maintenance periods for an average use of the pump.

Unfavourable ambient conditions and/or aggressive media may significantly reduce the maintenance intervals.

On the other hand, favorable conditions may allow longer operating periods or to skip the first oil change.

Maintenance job	Frequency	Section
Check the oil level	daily	3.1
Subsequent oil changes	Every 2000 h of operation or 6 months (depending on application)	3.2
Replace the exhaust filter	If oil mist at exhaust or annually	3.3
Gas ballast valve	Monthly	3.4
Clean the inlet flange sifter	6 months	3.5
Check the anti-suckback valve	6 months	3.6
Clean the fan cover	6 months	3.7
Check the electrical connection (only by a specialist)	6 months	

To simplify the maintenance work we recommend combining several jobs.

3.1 Oil level

The oil level shall be checked at least once a day and must be, while the pump is in operation, close to the MAX mark. Should the oil level be below the MIN mark switch off the pump, check it (see chapter 4) and add the required amount of oil.

3.2 Oil change

Oil changes, depending on operating conditions (products, vapours, ambient temperature...) must be done every 500 to 2000 operating hours or at least every 6 months.

If there is considerable pollution, it could be necessary to change the oil more frequently. Special oils allow to extend the oil changing period.

Oil changing must be done with a switched off and still warm pump. Open the oil drain plug and let run out the used oil into an appropriate container. Refasten the oil drain plug when oil runs slower, start up the pump briefly (5 sec. max) and switch off immediately. Re-open the oil drain plug and drain the rest of the oil.

Maintenance

Before refastening the oil drain plug, control the O-ring and if necessary replace it. Open the oil fill plug and pour in clean oil ; refasten the oil fill plug. The pump has to be rinsed out if there is considerable pollution. Therefore pour in clean oil up to the low edge of the oil-level glass, let the pump run briefly (for a few minutes) then drain the oil again.

3.3 Exhaust filters replacement (see chapters 1.1.6 and 1.1.8)

Oil mist escaping from the exhaust during operation indicates that the filter is probably clogged. Increased energy intake by the motor could also be the result of a soiled exhaust filter. Open the exhaust hood, take out the filter and replace it. Also check the gasket of the exhaust flange and change it if necessary.

3.4 Gas ballast valve cleaning (see safety prescriptions chapter)

Consult OLV

3.5 Inlet flange sifter cleaning

See safety prescriptions chapters 1.1.2., 1.1.6. and 1.1.8.

To clean the inlet flange sifter, disconnect the inlet connection and clean the sifter with blast air or an appropriate solvent.

3.6 Anti-suck back valve checking

See safety prescriptions chapter s1.1.2., 1.1.6. and 1.1.8.

The anti-suck back valve should be checked at the same time as the inlet flange sifter and if dirty, be cleaned with an appropriate solvent. Remove the inlet flange, check if there is no damage on the sealing part of the valve.

3.7 Fan cover cleaning

Soiling of the fan cover may lead to overheating of the motor and the pump. Put off the cover and clean it with blast air. Before starting the pump again, be sure that the cover has been reassembled.

3.8 Checking the float valve (see chapters 1.1.6 and 1.1.8)

When replacing the exhaust filter, check the cleanliness and the proper operation of the float valve. After having disassembled the exhaust flange and fan cover, remove the screw using a 4mm Allen Key. Pull on the float valve , clean the nozzle and check that the float itself oscillates free around its axle and that the valve is tight. Clean the float chamber of the oil casing. Reassemble in the reverse sequence.

4 Breakdown analysis

If you have a breakdown, please contact the Oerlikon Leybold Vacuum service station and/or ask us, to send you the guide: "breakdown analysis".

5 Spare parts

To guarantee safe operation of the Oerlikon Leybold Vacuum vacuum pump, only original spare parts and accessories should be used. When ordering spare parts and accessories, always state pump type and serial number. You can find part numbers in the spare parts list.

Consummables and main spare parts kits for SOGEVAC pumps are usually available on stock at Oerlikon Leybold Vacuum's service centers. The list of these parts is given hereafter and in the spare parts table where the contents of each kit is detailed.

- . Exhaust demisters
- . Oil GS32 (Special oils please refer to the specific notice of the pump or contact Oerlikon Leybold Vacuum).
- . Service kit
- . Set of seals
- . Repair kit

We recommend to use these kits which have been defined to allow an optimal maintenance or repair. Individual spare parts may need longer delivery time.

Return to Oerlikon Leybold Vacuum service station

If the pump has to be returned to Oerlikon Leybold Vacuum service station for repairing, you have to attach the form "Declaration of Contamination of Vacuum Equipment and Components".

The Service of Oerlikon Leybold Vacuum will send it to you on simple request (specimen on the end of this manual).

Oerlikon Leybold Vacuum will return to the sender's address any material received without this declaration.

For the transport, the pump and its components must be packaged in such a way, that it will not be damaged during shipping, and that no harmful substances can escape from the package.

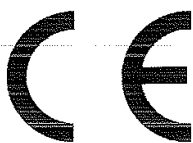
6 Information

We would be happy to supply further information as required:

Available are :

- . Technical description of the SOGEVAC vacuum pumps
- . Technical description of special oil types for vacuum pumps
- . Declaration of Contamination of Vacuum Equipment and Components.

EC Conformance Declaration



We, the Oerlikon Leybold Vacuum France, declare herewith that the products listed below, in the embodiment which we have placed on the market, comply with the applicable EC guidelines.

This declaration becomes invalid if modifications are made to the product without prior consultation with use.

Maintaining the EMC guideline assumes an EMC compliant installation of the component within the plant or machine.

Product type: SOGEVAC

Model designation: SV16, SV25, SV40, SV65, SV10B, SV16B, SV16BI, SV28BI, SV40BI, SV25B, SV40B, SV65B, SV100B, SV100, SV200, SV300, SV300B, SV500, SV630, SV750, SV1200, SV630B, SV750B
and their variants, excepted the pumps delivered without motor and the pumps delivered with EEx... motors

The products comply to the following guidelines :

- EC Directive on machines (98/37/EC)
- EC Low-Voltage Equipment Guidelines (73/23/EEC)+(93/68/EEC)
- EC Directive on Electromagnetic Compatibility (89/336/EEC) / (92/31/EEC) / (93/68/EEC)

Related, harmonized standards:

- EN 1012, 1996
Compressors and vacuum pumps, safety requirements
Part 2: Vacuum pumps
- EN 60204-1, 1997
Safety of machinery - Electrical equipment of machines
Part 1: General requirements

Limits of use:

- The pump and its accessories are not designed for pumping aggressive, flammable, explosive gases or vapors or substances, pyrophoric gases or oxidizing agents.
- The pump and its accessories are not designed for working in aggressive, flammable, or explosive ambiance.
- For pumping oxygen in concentrations greater than atmospheric concentration (>20%) or other highly reactive gases, a special pump must be used. This pump must be modified and an inert oil (such as PFPE) must be used.

Contact Oerlikon Leybold Vacuum France for important safety precautions relative to these applications.

Other safety precautions and restrictions:

Refer to the manual delivered with the pumps. In any case, take adequate safety precautions.

Valence, July 4th 2007

Joseph Schott
Plant Manager

Valence, July 4th 2007

Jean-Luc Abraham
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Declaration of contamination



Declaration of Contamination of Compressors, Vacuum Pumps and Components

The repair and / or servicing of compressors, vacuum pumps and components will be carried out only if a correctly completed declaration has been submitted. Non-completion will result in delay. The manufacturer can refuse to accept any equipment without a declaration.

A separate declaration has to be completed for each single component.

This declaration may be completed and signed only by authorized and qualified staff.

<p>Customer/Dep./Institute : _____</p> <p>Address : _____</p> <p>Person to contact: _____</p> <p>Phone : _____ Fax: _____</p> <p>End user: _____</p>	<p>Reason for return: <input checked="" type="checkbox"/> applicable please mark</p> <p>Repair: <input type="checkbox"/> chargeable <input type="checkbox"/> warranty</p> <p>Exchange: <input type="checkbox"/> chargeable <input type="checkbox"/> warranty</p> <p><input type="checkbox"/> Exchange already arranged / received</p> <p>Return only: <input type="checkbox"/> rent <input type="checkbox"/> loan <input type="checkbox"/> for credit</p> <p>Calibration: <input type="checkbox"/> DKD <input type="checkbox"/> Factory-calibr.</p> <p><input type="checkbox"/> Quality test certificate DIN 55350-18-4.2.1</p>																																												
<p>A. Description of the Leybold product: _____ Failure description: _____</p> <p>Material description : _____</p> <p>Catalog number: _____ Additional parts: _____</p> <p>Serial number: _____ Application-Tool: _____</p> <p>Type of oil (ForeVacuum-Pumps) : _____ Application- Process: _____</p>																																													
<p>B. Condition of the equipment</p> <table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th></th><th>No¹⁾</th><th>Yes</th><th>No</th></tr></thead><tbody><tr><td>1. Has the equipment been used</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td>2. Drained (Product/service fluid)</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td>3. All openings sealed airtight</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td>4. Purged</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr></tbody></table> <p>If yes, which cleaning agent _____</p> <p>and which method of cleaning _____</p> <p>¹⁾ If answered with "No", go to D. </p> <p>Contamination :</p> <table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th></th><th>No¹⁾</th><th>Yes</th></tr></thead><tbody><tr><td>toxic</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td>corrosive</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td>flammable</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td>explosive ²⁾</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td>radioactive ²⁾</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td>microbiological ²⁾</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td>other harmful substances</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr></tbody></table> <p></p>			No ¹⁾	Yes	No	1. Has the equipment been used	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2. Drained (Product/service fluid)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3. All openings sealed airtight	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4. Purged	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		No ¹⁾	Yes	toxic	<input type="checkbox"/>	<input type="checkbox"/>	corrosive	<input type="checkbox"/>	<input type="checkbox"/>	flammable	<input type="checkbox"/>	<input type="checkbox"/>	explosive ²⁾	<input type="checkbox"/>	<input type="checkbox"/>	radioactive ²⁾	<input type="checkbox"/>	<input type="checkbox"/>	microbiological ²⁾	<input type="checkbox"/>	<input type="checkbox"/>	other harmful substances	<input type="checkbox"/>	<input type="checkbox"/>
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microbiological ²⁾	<input type="checkbox"/>	<input type="checkbox"/>																																											
other harmful substances	<input type="checkbox"/>	<input type="checkbox"/>																																											
<p>C. Description of processed substances (Please fill in absolutely)</p> <p>1. What substances have come into contact with the equipment ?</p> <p>Trade name and / or chemical term of service fluids and substances processed, properties of the substances</p> <p>According to safety data sheet (e.g. toxic, inflammable, corrosive, radioactive)</p> <table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th>X</th><th>Tradename:</th><th>Chemical name:</th></tr></thead><tbody><tr><td>a)</td><td></td><td></td></tr><tr><td>b)</td><td></td><td></td></tr><tr><td>c)</td><td></td><td></td></tr><tr><td>d)</td><td></td><td></td></tr></tbody></table> <p>2. Are these substances harmful ? <input type="checkbox"/> No <input type="checkbox"/> Yes</p> <p>3. Dangerous decomposition products when heated ? <input type="checkbox"/> No <input type="checkbox"/> Yes</p> <p>If yes, which ? _____</p> <p></p>		X	Tradename:	Chemical name:	a)			b)			c)			d)																															
X	Tradename:	Chemical name:																																											
a)																																													
b)																																													
c)																																													
d)																																													
<p>²⁾ Components contaminated by microbiological, explosive or radioactive products/substances will not be accepted without written evidence of decontamination.</p>																																													

D. Legally binding declaration

I / we hereby declare that the information supplied on this form is accurate and sufficient to judge any contamination level.

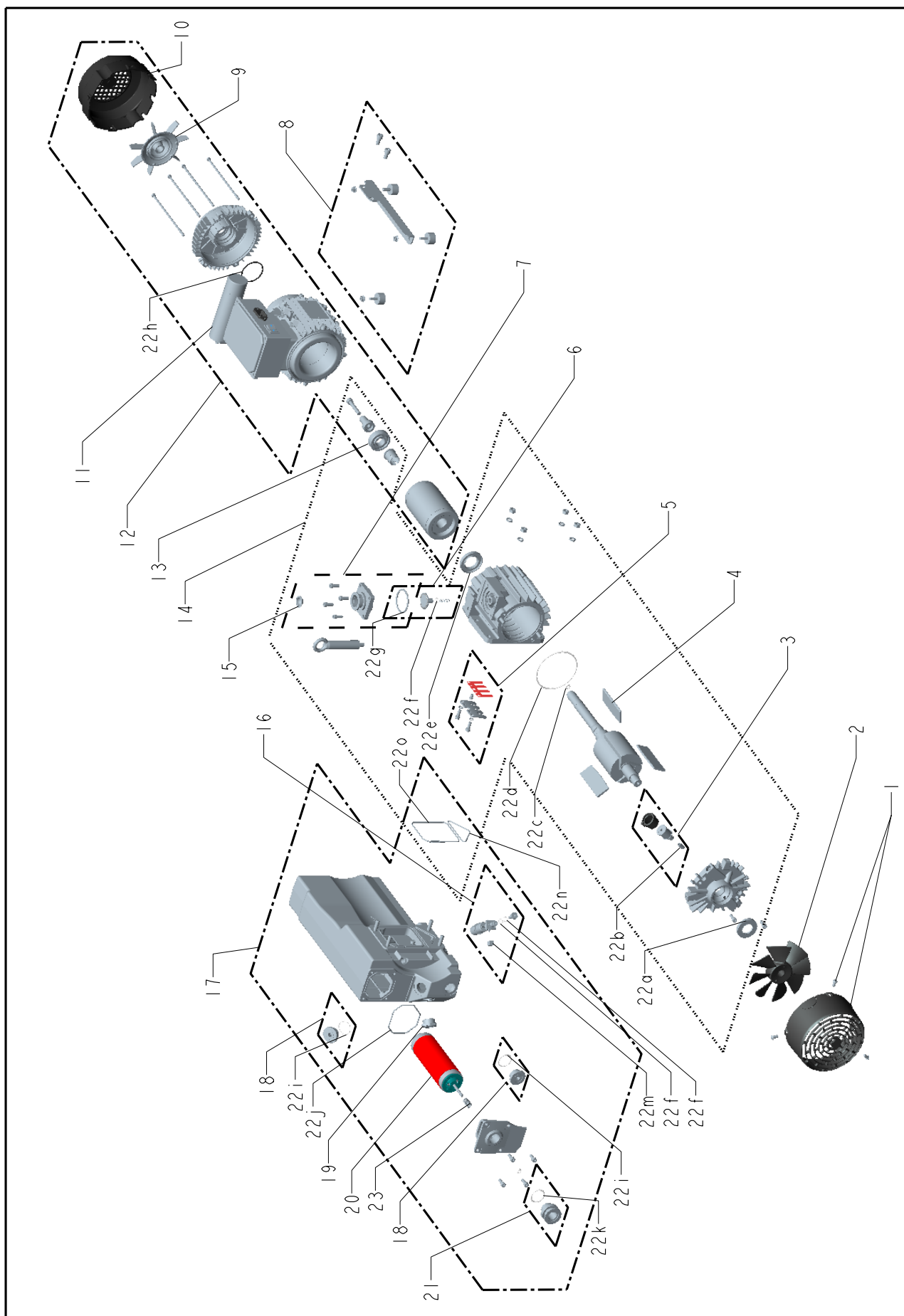
Name of authorized person (block letters) : _____

Date

signature of authorized person

firm stamp

Spare parts list



Spare parts list

Pos.	Stück. Qty Qté	BENENNUNG	SPECIFICATION	DESIGNATION	Werkstoff Material Matière	Bestell-Nr Ref, No, N° de réf.	Bemerkungen Notes Remarques
1	1	TURBINENHAUBE	FAN COVER	CAPOT TURBINE ENS.		971447860	
2	1	TURBINE	FAN	TURBINE		971447870	
3	1	GAS BALLAST KIT	GAS BALLAST KIT	KIT LEST AIR		971462640	
4	1	SCHIEBERSATZ 3 STÜCK	SET OF 3 VANES	JEU DE 3 PALETTES		971447220	
5	1	VENTILPLATTE UND ANSCHLAG KIT	VALVE AND VALVE STOP KIT	KIT LAME ET CONTRE LAME		971462750	
6	1	SAUGSTUTZEN KIT	ANTI SUCK BACK KIT	KIT CLAPET ASPIRATION		971462600	Incl. 22f, 22g
7	1	ANSAUGFLANSCH KIT	INTAKE FLANGE KIT	KIT BRIDE ASPI		971454300	Incl. 15, 22g
8	1	GUMMIFUSS KIT	RUBBER FEET KIT	KIT AMORTISSEURS		971462650	
9	1	MOTOR LUEFTER	MOTOR FAN	VENTILATEUR MOTEUR		971462760	
10	1	MOTOR LUEFTERHAUBE	MOTOR FAN COVER	CAPOT MOTEUR		971462770	
11	1	KONDENSATOREN 1 PH 230 V	CAPACITORS 1 PH 230 V	CONDENSATEURS MONO 230 V		971462780	
11	1	KONDENSATOREN 1 PH 115 V	CAPACITORS 1 PH 115 V	CONDENSATEURS MONO 115 V		971462790	
12	1	DREHSTROM MOTOR	THREE PHASE MOTOR	MOTEUR TRI		971457650	
12	1	WECHSELSTROM MOTOR 230 V	SINGLE PHASE MOTOR 230 V	MOTEUR MONO 230V		971457670	
12	1	WECHSELSTROM MOTOR 115 V	SINGLE PHASE MOTOR 115 V	MOTEUR MONO 115V		971457680	
13	1	DREHSTROM MOTOR KUGELLAGER	BEARING THREE PHASE MOTOR	ROULEMENT MOTEUR TRI		971464740	
13	1	WECHSELSTROM MOTOR KUGELLAGER	BEARING SINGLE PHASE MOTOR	ROULEMENT MOTEUR MONO		971440330	
14	1	GENERATOR MODUL DREHSTROM	GENERATOR THREE PHASE	GENERATEUR ENS. TRI		971462620	Incl. 22a,b,c,d,e,f,g,n,o
14	1	GENERATOR MODUL WECHSELSTROM	GENERATOR SINGLE PHASE	GENERATEUR ENS. MONO		971462630	Incl. 22a,b,c,d,e,f,g,n,o
15	1	EINLASS FILTER	INLET FILTER	FILTRE ASPIRATION		71413440	
16	1	SCHWIMMERVENTIL	FLOAT VALVE	FLOTTEUR ENS.		971462660	Incl. 22f, 22m
17	1	OELKASTEN 0.5 L	OIL CASING 0.5 L	CARTER 0.5L ENS.		971449400	Incl. 16, 18, 19, 20, 21, 22j, n, o, 23
17	1	OELKASTEN 1.5 L	OIL CASING 1.5 L	CARTER 1.5L ENS.		971454140	Incl. 16, 18, 19, 20, 21, 22j, n, o, 23
18	1	STOPFEN G 3/4	PLUG G 3/4	BOUCHON G 3/4		71256380	Incl. 22i
19	1	OELSCHAUGGLASS	OIL SIGHT GLASS	VOYANT HUILE		71212420	
20	1	AUSLASSFILTER	EXHAUST FILTER	CARTOUCHE REFOUL. AVEC BY-PASS		71416340	
21	1	AUSLASS 25 KF ANSCHLUSS	EXHAUST 25 KF FITTING	RACCORD 25KF		71404530	Incl. 22k
22		DICHTUNGS KIT	KIT OF SEALS	JEU DE JOINTS	FKM	971462670	All 22
		REPARATUR KIT	REPAIR KIT	KIT REPARATION		971462690	Incl. 4, 5, 19, 20, 22, 23
		WARTUNGS KIT	MAINTENANCE KIT	KIT DE MAINTENANCE		971462810	Incl. 18, 20, 22k, 23
		SCHRAUBEN KIT	NUTS AND BOLTS KIT	KIT VISSERIE		971462800	

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