

Oil Sealed Vacuum Pumps

TRIVAC

Rotary Vane Vacuum Pumps

SOGEVAC

Rotary Vane Vacuum Pumps

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Oil Sealed Vacuum Pumps

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Applications for TRIVAC pumps

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|---|-------|---------------|--------------|--------------|---------------|---------------|---------------|---------------|----------------------------------|-----------------|-------------------------------|------------------|---------------------------|-----------------|-----------------|-----------------------------|----------------------|----------------------|
| Applications | | | | | | | | | | | | | | | | | | |
| Production of semiconductors | | | | | | | | | | | ■ | ■ | ■ | ■ | ■ | ■ | | |
| Vacuum coating | | | ■ | ■ | ■ | ■ | | | | | | | | | | | | |
| Research and development | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | ■ | ■ | | | | | |
| Chemistry/pharmaceuticals | | ■ | | ■ | ■ | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ | |
| Metallurgy/furnaces | | | | | | ■ | ■ | | | | | | | | | | | |
| Lamps and tubes manufacture | | ■ | ■ | ■ | ■ | | ■ | ■ | | | | | | | | | | |
| Automotive industry | | ■ | | ■ | ■ | | | | ■ | ■ | | | | | | | | |
| Laser engineering | ■ | | | | | | | | | | | | | | | | | |
| Space simulation | | | | | | ■ | ■ | | | | | | | | | | | |
| Analytical engineering | | ■ | ■ | ■ | ■ | ■ | | | | | | | | | | | | |
| Environment engineering | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | | | |
| Cooling and air-conditioning | ■ | | | ■ | ■ | ■ | ■ | ■ | | ■ | | | | | | | | |
| Electrical engineering | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | | | |
| Mechanical engineering | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | | | |
| Medicine technology | | ■ | ■ | ■ | ■ | ■ | | | | | | | | | | | | |
| Vacuum drying cabinets | | ■ | ■ | ■ | ■ | ■ | | | | | | | | | | | | |
| Chemistry and research labs | | ■ | ■ | ■ | ■ | ■ | | | | | ■ | ■ | ■ | | | | | |
| Freeze drying systems | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | | | |
| Backing pump for high vacuum pump systems | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Leak detectors | | ■ | | | ■ | ■ | ■ | ■ | | | | | | | | | | |

Accessories for TRIVAC pumps

| Pumps | | S 1,5 | TRIVAC D 2,5 E | TRIVAC D 4 B | TRIVAC D 8 B | TRIVAC D 16 B | TRIVAC D 25 B | TRIVAC D 40 B | TRIVAC D 65 B | TRIVAC D 16 B-DOT + D 25 B-DOT | TRIVAC 40 B-DOT | TRIVAC D 65 B ³ He | TRIVAC D 16 B-Ex | TRIVAC D 16 BCS + D 25 BCS | TRIVAC D 40 BCS | TRIVAC D 65 BCS | TRIVAC D 16 + D 25 BCS-PFPE | TRIVAC D 40 BCS-PFPE | TRIVAC D 65 BCS-PFPE |
|---|-------|-------|----------------|--------------|--------------|---------------|---------------|---------------|---------------|--------------------------------|-----------------|-------------------------------|------------------|----------------------------|-----------------|-----------------|-----------------------------|----------------------|----------------------|
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| Condensate traps / separators AK | 76/84 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | ■ | ■ | ■ | ■ | ■ | ■ | | |
| Exhaust filters with lubricant return ARP / AR | 80 | | | ■ | ■ | ■ | ■ | ■ | ■ | | | ■ | ■ | ■ | | | | | |
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| Cold trap TK | 87 | | ■ | ■ | ■ | | | | | | | | | | | | | | |
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¹⁾ For pumps with gas ballast only

Oil for TRIVAC pumps for different fields of application

| Applications | Semiconductor production | Vacuum coating | Research and development | Chemistry/Pharmaceutical | Metallurgy/Furnaces | Lamps and tubes manufactures | Automotive industry | Laser technology | Space simulation | Analytical engineering | Environment engineering | Oxygen technologies | Cooling applications | Electrical applications | Mechanical engineering | Medicine engineering | Vacuum technology | Chemistry and research labs | Freeze drying cabinets | Freeze drying | Backing pump for HV pump systems | Food industry |
|----------------------|--------------------------|----------------|--------------------------|--------------------------|---------------------|------------------------------|---------------------|------------------|------------------|------------------------|-------------------------|---------------------|----------------------|-------------------------|------------------------|----------------------|-------------------|-----------------------------|------------------------|---------------|----------------------------------|---------------|
| LEYBONOL Oils | | | | | | | | | | | | | | | | | | | | | | |
| LVO 100 | ▲ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ● | ■ | ■ | | | |
| LVO 210 | | ■ | ■ | ■ | ■ | ■ | | ■ | ■ | ■ | | ■ | ■ | ■ | ■ | ● | ■ | ● | ● | | | |
| LVO 240 | | | ■ | ■ | | | | | | | | | | | | | | | | | | |
| LVO 300 | | | | | | | | | | | | | | | | | | | | | | ■ |
| LVO 310 | | | ■ | | ■ | ■ | ■ | | | | ■ | | ■ | | | | | | | | | ▲ |
| LVO 400 | ■ | ● | ■ | ■ | | | | | | ■ | | | | | | ▲ | ● | | ● | | | |
| LVO 600 | | | ■ | ■ | | | | | | | | | | | ■ | | | | | | | |
| DOT 4 | | | ● | | | | ■ | | | | | | | | | | | | | | | |

- = Standard
- = Possible
- ▲ = Please contact Leybold

The table only lists general applications. Your specific requirements might be subject to deeper analysis. For further questions, please contact our technical Sales support.

For information on oil specifications please refer to Catalog Part "Oils / Greases / Lubricants "LEYBONOL®".

Oil for TRIVAC pumps for different pump types

| Pumps | S 1.5 | TRIVAC D 2.5 E | TRIVAC D 4 B | TRIVAC D 8 B | TRIVAC D 16 B | TRIVAC D 25 B | TRIVAC D 40 B | TRIVAC D 65 B | TRIVAC D 16 B-DOT + D 25 B-DOT | TRIVAC 40 B-DOT | TRIVAC D 65 B ³ He | TRIVAC D 16 B Ex | TRIVAC D 16 BCS + D 25 BCS | TRIVAC D 40 BCS | TRIVAC D 65 BCS | TRIVAC D 16 + D 25 BCS-PFPE | TRIVAC D 40 BCS-PFPE | TRIVAC D 65 BCS-PFPE |
|----------------------|-------|----------------|--------------|--------------|---------------|---------------|---------------|---------------|--------------------------------|-----------------|-------------------------------|------------------|----------------------------|-----------------|-----------------|-----------------------------|----------------------|----------------------|
| LEYBONOL Oils | | | | | | | | | | | | | | | | | | |
| LVO 100 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | |
| LVO 210 | ● | ● | ● | ● | ● | ● | ● | ● | | ● | ● | ● | ● | | | | | |
| LVO 240 | ● | ● | ● | ● | ● | ● | ● | ● | | ▲ | | | ● | | | | | |
| LVO 300 | | | ● | ● | ● | ● | ● | ● | | | | | | | | | | |
| LVO 310 | ● | ● | ● | ● | ● | ● | | | | ▲ | | | | | | | | |
| LVO 400 | | ▲ | ▲ | | | | | | | | | | | ■ | ■ | ■ | | |
| LVO 600 | ● | ● | ● | ● | ● | ● | ● | ● | | ▲ | ● | ● | ● | | | | | |
| DOT 4 | | | | | | | | ■ | ■ | | | | | | | | | |

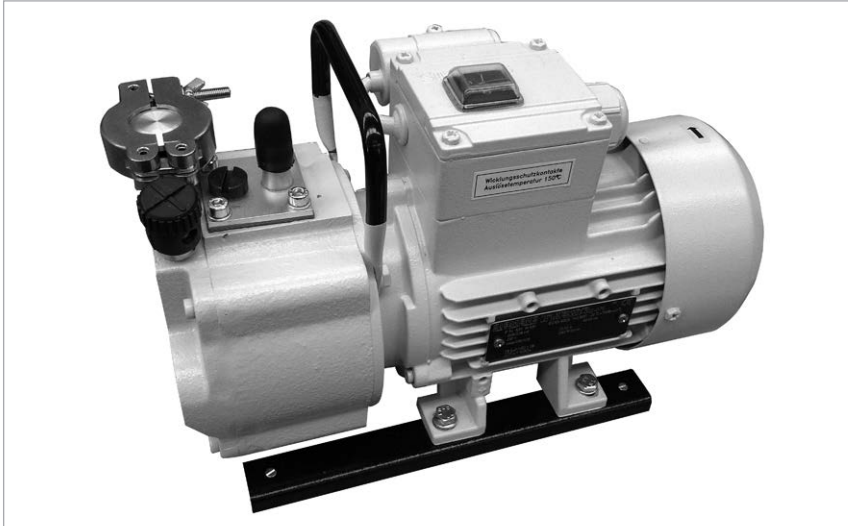
- = Standard
- = Possible
- ▲ = Please contact Leybold

The table only lists general applications. Your specific requirements might be subject to deeper analysis. For further questions, please contact our technical Sales support.

For information on oil specifications please refer to Catalog Part "Oils / Greases / Lubricants LEYBONOL®".

Products

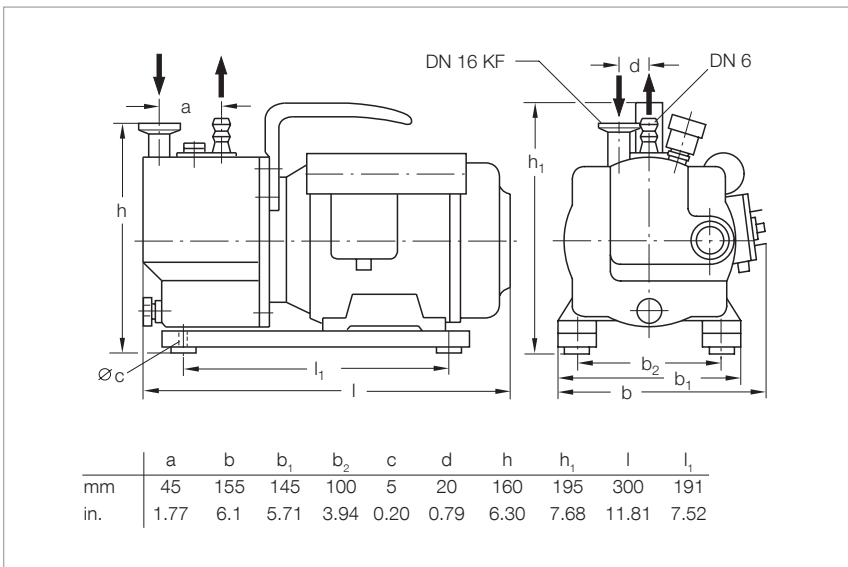
Small Compact Pump S 1,5



The S 1,5 is a single-stage, oil sealed rotary vane pump with a gas ballast valve. It is driven by a flange mounted AC motor. The shaft of the pump and the shaft of the motor are linked by means of a pinned coupling.

Advantages to the User

- Very small and light-weight
- Low ultimate pressure
- High water vapor tolerance
- Low noise operation
- Simple to connect
- Easy to maintain and use



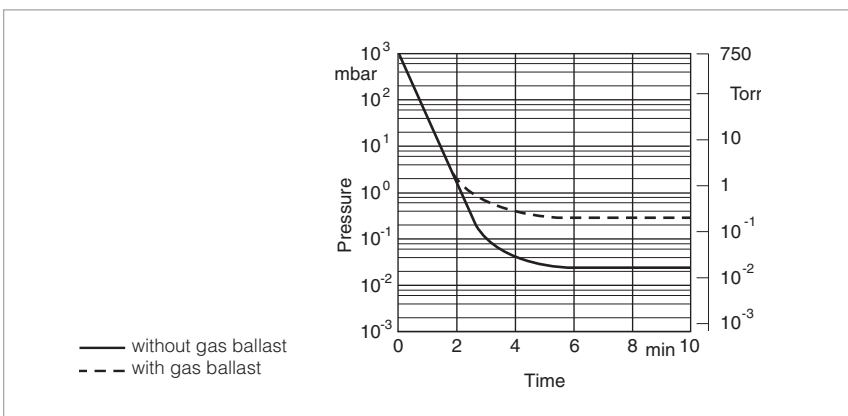
Dimensional drawing for the S 1,5

Typical Applications

- In all areas of vacuum engineering where a low intake pressure is required
- Evacuation of refrigerant circuits
- For suction, lifting, emptying, filling and tensioning
- For installation in mobile instruments

Supplied Equipment

- DN 16 small flange connection on the intake side
- Centering ring and clamping ring
- Exhaust port designed as a DN 6 hose nozzle
- Carrying handle
- Built-in ON/OFF switch and overcurrent circuit breaker
- Oil filling



Pump-down characteristics of a 10 l vessel at 50 Hz

Technical Data

S 1,5

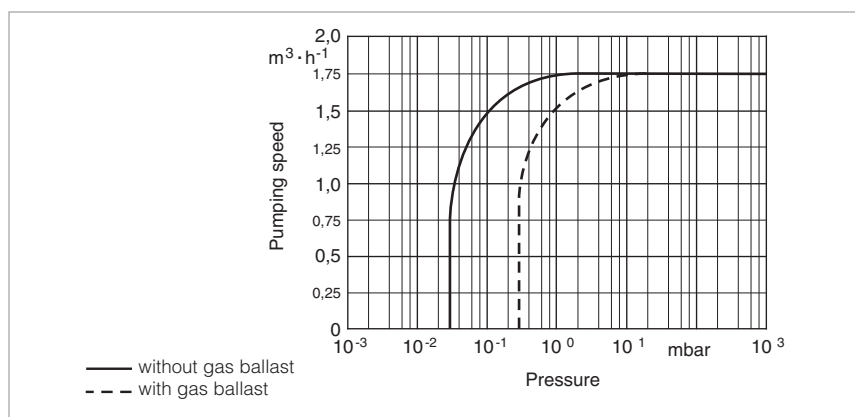
| | | 50 Hz | 60 Hz |
|---|-------------------------|--|--|
| Nominal pumping speed ¹⁾ | m ³ /h (cfm) | 1.9 (1.1) | 2.3 (1.3) |
| Pumping speed ¹⁾ | m ³ /h (cfm) | 1.75 (1) | 2.1 (1.2) |
| Ultimate partial pressure without gas ballast ¹⁾ | mbar (Torr) | 3 x 10 ⁻² (2.3 x 10 ⁻²) | 3 x 10 ⁻² (2.3 x 10 ⁻²) |
| Ultimate total pressure with gas ballast ¹⁾ | mbar (Torr) | 5 x 10 ⁻¹ (3.8 x 10 ⁻¹) | 5 x 10 ⁻¹ (3.8 x 10 ⁻¹) |
| Water vapor tolerance ¹⁾ | mbar (Torr) | > 15 (> 11.3) | > 15 (> 11.3) |
| Water vapor capacity | g/h (lbs/h) | 19 (42) | 23 (50) |
| Oil filling, min. / max. | l (qt) | 0.11/0.14 (0.12/0.15) | 0.11/0.14 (0.12/0.15) |
| Noise level to DIN 45 635 | dB(A) | 50 | 50 |
| Admissible ambient temperature | °C (°F) | 12 - 40 (53.6 -104) | 40 (53.6 -104) |
| Max. permanent inlet pressure | mbar (Torr) | 30 (22.5) | 30 (22.5) |
| Motor rating | W (hp) | 80 (0.11) | 80 (0.11) |
| Nominal speed | rpm | 1500 | 1800 |
| Weight | kg (lbs) | 8.8 (19.4) | 8.8 (19.4) |
| Connections | | | |
| Intake | DN | 16 KF | 16 KF |
| Exhaust | | 6 mm hose nipple | 6 mm hose nipple |

Ordering Information

S 1,5

| | Part No. |
|---|--------------------|
| S 1,5 with AC motor, 230 V (208 - 252 V ± 5%), 50/60 Hz, with 2 m long mains cord and EURO plug | 101 01 |
| Transition connector (250 V AC, 10 A, L+N+PE) only necessary in Switzerland for 1~ pumps | 800 001 274 |
| AK 8 condensate trap | 190 60 |
| Exhaust filter drain tap (G 1/4") | 190 95 |
| Connection components | |
| Elbow (1x) DN 16 KF | 184 36 |
| Centering ring with O-ring (2x) DN 16 KF | 183 26 |
| Clamping ring (2x) DN 16 KF | 183 41 |

¹⁾ To DIN 28 400 and following numbers



Pumping speed characteristics at 50 Hz

TRIVAC E, Two-Stage, Oil Sealed Rotary Vane Vacuum Pump



TRIVAC D 2,5 E

The TRIVAC E pump is an oil sealed vacuum pump operating according to the rotary vane principle. Oil which is injected into the pump chamber is used for sealing, lubrication and cooling purposes.

The result is the TRIVAC E rotary vane vacuum pump.

Beyond the usual quality and reliability of the B series pumps, the TRIVAC E pump offers improvements in the area of quieter operation, smaller size and improved service-friendliness.

The intake and exhaust ports are equipped with small flanges. Besides standard voltages and frequencies, Leybold offers world motors, which are specially required by OEMs.

Advantages to the User

- Highly reliable
- Small and compact
- Quiet operation
- Environmentally compatible (low oil consumption, EMI compatible; IP 54 protection)
- Process quality (low backstreaming of oil)
- Motor for all standard supply voltages and frequencies
- Safe and intelligent vacuum protection (hermetically sealed)
- Free of yellow metals
- Compliance with international standards (CE)
- Suitable for continuous operation at 1000 mbar (750 Torr)
- Low power consumption
- Better individual performance given by 3 stage gas ballast device
- High water vapor tolerance
- Simplified customizing ability

Typical Applications

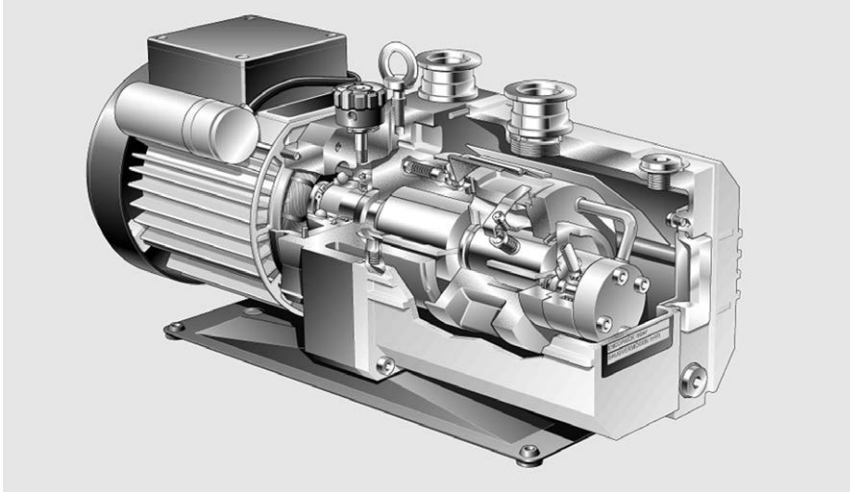
- Mass and X-ray spectrometers
- Electron beam microscopes
- Leak detectors
- Sterilizers
- Freeze-drying systems
- Chemical and research labs
- General vacuum engineering
- Backing pump for high vacuum pump systems

Supplied Equipment

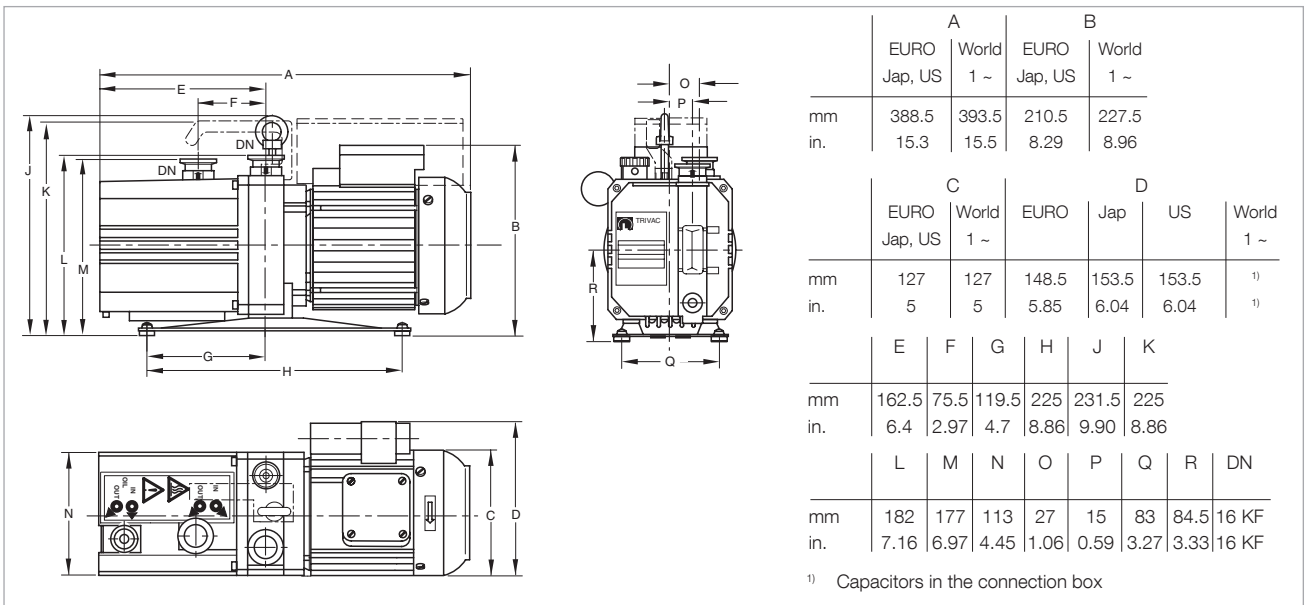
- Dirt trap
- Oil filling included separately (standard LVO 100)
- Gas ballast device
- Mains cord with the specific plug for EURO, US and Japan motors
- Optional: Mains cord with country specific plug for the world motor
- With handle

All pumps are 100% subjected to a vacuum test before delivery!

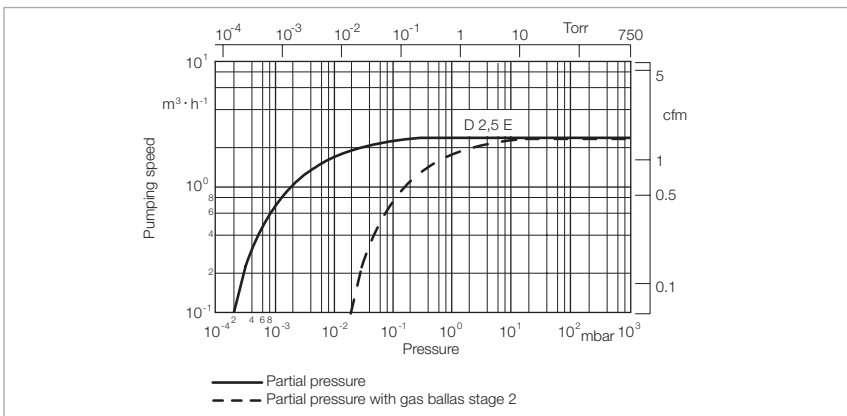
TRIVAC D 2,5 E



TRIVAC E



Dimensional drawing for the TRIVAC D 2,5 E



Pumping speed of the TRIVAC D 2,5 E at 50 Hz (60 Hz curves at the end of the chapter)

Technical Data

TRIVAC D 2,5 E

| | | 50 Hz | 60 Hz |
|--|-------------------------|--|--|
| Nominal pumping speed ¹⁾ | m ³ /h (cfm) | 3.2 (1.9) | 3.6 (2.1) |
| Pumping speed ¹⁾ | m ³ /h (cfm) | 2.7 (1.6) | 3.3 (1.9) |
| Ultimate partial pressure without gas ballast | mbar (Torr) | ≤ 5 × 10 ⁻⁴ (≤ 3.8 × 10 ⁻⁴) | ≤ 5 × 10 ⁻⁴ (≤ 3.8 × 10 ⁻⁴) |
| Ultimate total pressure without gas ballast ²⁾ | mbar (Torr) | ≤ 2 × 10 ⁻³ (≤ 1.5 × 10 ⁻³) | ≤ 2 × 10 ⁻³ (≤ 1.5 × 10 ⁻³) |
| Ultimate total pressure with gas ballast Stage 2 ²⁾ | mbar (Torr) | ≤ 3 × 10 ⁻² (≤ 2.3 × 10 ⁻²) | ≤ 3 × 10 ⁻² (≤ 2.3 × 10 ⁻²) |
| Water vapor tolerance | | | |
| Stage 1 | mbar (Torr) | 10 (7.5) | 10 (7.5) |
| Stage 2 | mbar (Torr) | 20 (15) | 20 (15) |
| Stage 3 | mbar (Torr) | 30 (22.5) | 30 (22.5) |
| Water vapor capacity | | | |
| Stage 1 | g/h (lbs/h) | 20 (0.044) | 25 (0.055) |
| Stage 2 | g/h (lbs/h) | 40 (0.088) | 50 (0.110) |
| Stage 3 | g/h (lbs/h) | 60 (0.132) | 75 (0.165) |
| Oil filling, min. / max. | l (qt) | 0.4 / 0.7 (0.42 / 0.74) | 0.4 / 0.7 (0.42 / 0.74) |
| Noise level | dB(A) | ≤ 47 | ≤ 49 |
| Admissible ambient temperature | °C (°F) | +10 to +50 (+50 to +122) (EURO motor) / +10 to +40 (+50 to +104) (US/Japan motor) | +10 to +50 (+50 to +122) (EURO motor) / +10 to +40 (+50 to +104) (US/Japan motor) |
| Motor rating | W (HP) | 250 (0.34) | 300 (0.41) |
| Nominal speed | rpm | 1400 | 1600 |
| Type of protection | IP | 54 | 54 |
| Weight (with oil filling) | kg (lbs) | 16.1 (35.4) | 16.1 (35.4) |
| Connections (Intake and Exhaust) | DN | 16 KF | 16 KF |

¹⁾ To DIN 28 426 T1

²⁾ To DIN 28 400 and following numbers

Motor Dependent Data

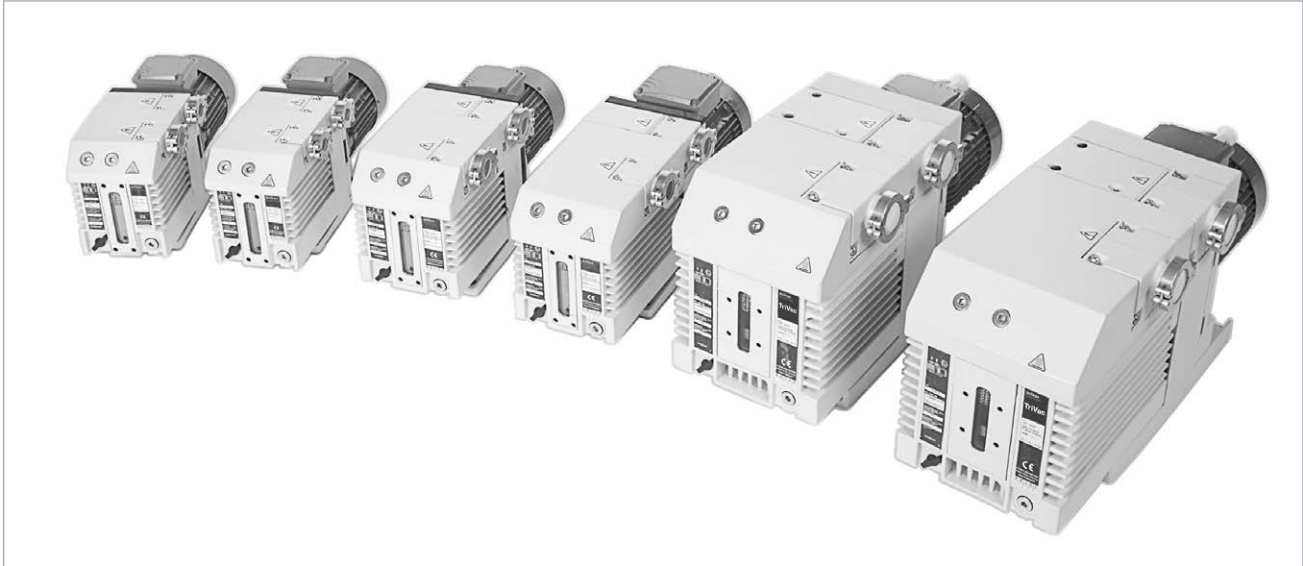
| Motors for D 2,5 E | Voltage (V) | Frequency (Hz) | Voltage tolerance | Power consumption (W (HP)) | Nominal current (A) | Protection | Nominal speed (rpm) |
|--------------------|--------------------|----------------|-------------------|----------------------------|---------------------|------------|---------------------|
| EURO 1 ~ | 220-240/230 | 50/60 | ± 5% | 250/300 (0.34/0.41) | 1.8/1.4 | IP 54 | 1400/1600 |
| Japan 1 ~ | 100 | 50/60 | ± 5% | 250/300 (0.34/0.41) | 5.5/4.0 | IP 54 | 1400/1600 |
| US 1 ~ | 110-120 | 60 | ± 5% | 300 (0.41) | 3.3 | IP 54 | 1600 |
| World 1 ~ | 100-120 200-240 | 50/60 | ± 5% | 250/300 (0.34/0.41) | 4.4/3.0 2.2/1.5 | IP 54 | 1400/1600 |

Ordering Information

TRIVAC D 2,5 E

| | Part No. |
|---|----------------------|
| TRIVAC E with 1.8 m (6 ft.) long mains cord EURO version, 1-ph., 220-240 V, 50 Hz; 230 V, 60 Hz | |
| Schuko plug | 140 000 |
| UK plug | 140 004 |
| CH plug | 140 005 |
| US version, 1-ph., 110-120 V, 60 Hz, NEMA plug | 140 002 |
| Japan version, 1-ph., 100 V, 50/60 Hz, NEMA plug | 140 003 |
| Single phase world motor, 100-120 V, 200-240 V 50/60 Hz (without mains cord) | 140 001 |
| Further variants upon request | |
| Accessories | |
| Connection cable for single phase world motor | |
| 230 V Schuko plug | 200 81 091 |
| 230 V UK plug | 200 81 097 |
| 230 V CH plug | 200 81 099 |
| 230 V NEMA plug (200-240 V) | 200 81 141 |
| 115 V NEMA plug (100-120 V) | 200 81 090 |
| Exhaust filter AF 8 | 190 50 |
| Replacement filter elements FE 8 for AF 8 (pack of 5) | 190 80 |
| Exhaust filter drain tap (G 1/4") | 190 95 |
| Manual oil return AR-M via gas ballast inlet (kit for AF 8-16) | 190 93 |
| Oil suction AR-V controlled by a solenoid valve via the gas ballast inlet (kit for AF 8-16) | 190 92 |
| Condensate trap AK 8 | 190 60 |
| Oil drain tap (M 16 x 1.5) | 190 90 |
| Oil drain kit (M 16 x 1.5) | 190 94 |
| Connection components | |
| Elbow (1x) DN 16 KF | 184 36 |
| Centering ring with O-ring (2x) DN 16 KF | 183 26 |
| Clamping ring (2x) DN 16 KF | 183 41 |
| Spare Parts | |
| Maintenance kit 1 (oil demister, oil box seal) | 200 40 022 |
| Repair kit 1 (motor side sealing, shaft sealing ring, coupling sleeves, compression spring) | E 100 000 351 |
| Repair kit 2 (valves, oil demister, oil box seal) | 200 40 024 |
| Repair kit 3 (oil demister, sealing, wearing parts) | E 100 000 347 |
| For further accessories see Chapter "Accessories for TRIVAC E, B and BCS" | |

TRIVAC B, Two-Stage Rotary Vane Vacuum Pumps TRIVAC D 4 B to D 65 B



The TRIVAC B is part of the well-proven TRIVAC concept.

The TRIVAC B pumps with their comprehensive range of accessories have proven themselves time and again as rugged pumps in many and varied applications.

The inner body is assembled from individual parts without sealing components. The parts are pinned in order to ensure easy disassembly and reassembly of the parts.

All pumps from the D 4 B to the D 25 B model are equipped either with single-phase or three-phase motors. D 40 - 65 B models are equipped with three-phase motors. In the TRIVAC B, the pump unit and the motor are linked by an elastic coupling.

The TRIVAC B range is a modular system which divides into three groups:

TRIVAC 4/8 Series
TRIVAC 16/25 Series
TRIVAC 40/65 Series

Advantages to the User

- All basic models (single-phase and three-phase motor) are certified in accordance with 94/9/EG (ATEX) (Category 3 inside)
- High water vapor tolerance
- Continuous operation even at 1000 mbar
- Built-in oil pump; pressure-lubricated sliding bearings
- All controls as well as the oil sight glass are located on the front face
- Either vertical or horizontal intake and exhaust ports
- Exchangeable inner body
- Anti-suckback valve controlled via the oil pressure
- Free of yellow metals
- Service-friendly
- Ideal as backing pump for medium and high vacuum applications, because of low oil backstreaming
- Highly leaktight (⁴He-capable)

Typical Applications

See chapter "General, Applications and Accessories".

Supplied Equipment

Small flanges, centering and clamping rings. The intake flange contains a dirt trap.

A carrying handle is standard for all pumps up to the D 25 B. TRIVAC B pumps with single-phase motors are delivered with ON/OFF switch, mains cord and main plug, ready for immediate operation.

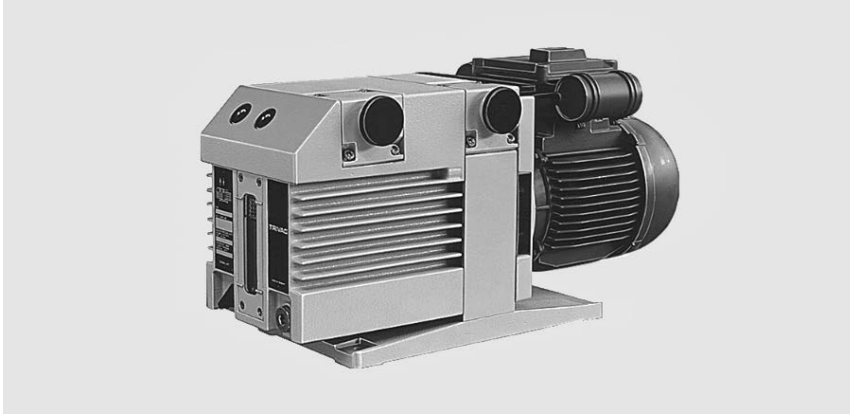
Standard TRIVAC B pumps come with a filling of oil LEYBONOL LVO 100, others with special oil fillings can be specified.

All pumps are 100% subjected to a vacuum test before delivery!

Custom Models

- ATEX (Category 3 inside and 3 outside)
- Brake fluid
- Oils for refrigerating machines, e.g. ester oils for refrigerant circuits with R 134 a
- Pressure burst resistant (for the new refrigerants propane and isobutane)
- ³He-tight (for cryostats)
- Special motors

TRIVAC D 16 B-DOT to D 40 B-DOT



The TRIVAC B-DOT pumps operate with brake fluid (DOT 4) as the sealing and lubricating agent. Therefore these pumps are equipped with EPDM seals. EPDM is highly compatible with brake fluid.

Advantages to the User

- Matching exhaust filters with EPDM gaskets (AF-DOT)
- Except for the seals and the fluid the TRIVAC B-DOT pumps are identical to the oil sealed TRIVAC B pumps

Typical Applications

- For filling of brake fluid circuits in the automotive industry

Supplied Equipment

- The brake fluid is inside the pump when shipped

TRIVAC D 65 B ³He



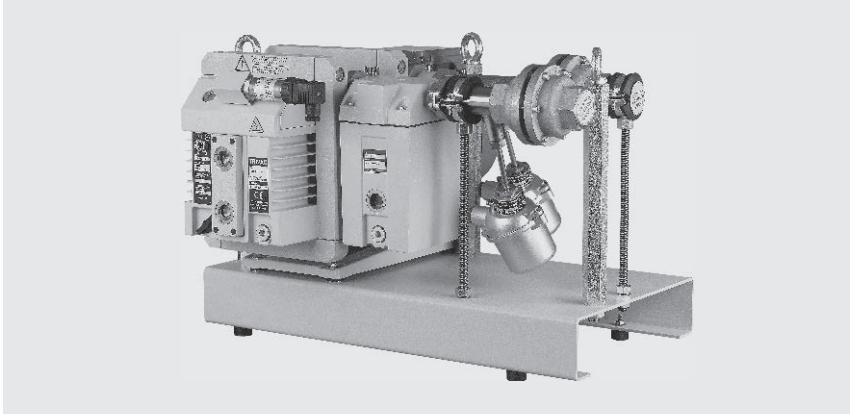
Advantages to the User

- Leak rates below 1×10^{-7} mbar \times l \times s⁻¹, also while the pump is running
- Low pressures of 100 mbar in the oil box are permitted during operation
- No gas ballast facility
- Pump is FPM (FKM)-sealed

Typical Applications

- Pumping of continuously or discontinuously ³He operated cryostats, also on ³He and ⁴He mixed cryostats
- In these cryostats the very expensive helium isotope ³He, respectively mixtures consisting of ³He and ⁴He are pumped and this is generally done continuously in cycles running over weeks. The gas must neither be lost nor contaminated. For this reason exhaust lines are frequently operated at low pressures of 100 mbar (absolute)

TRIVAC D 16 B-Ex, Explosion Protected and Pressure Burst Resistant



ATEX

**Category 1 inside and
2 outside**

Typical Applications

- Pumping of gases belonging to Group IIB3 and IIC ¹⁾ from Zone 0

Vacuum pumps TRIVAC D 16 B-Ex meet the requirements of the European Directive 94/9/EG (ATEX Directive). TRIVAC D 16 B-Ex pumps are classified inside as Category 1, outside as Category 2. Thus these pumps are suited for pumping explosive gases from Zone 0, the pump itself may be located in Zone 1.

The vacuum pumps TRIVAC D 16 B-Ex are qualified for gases of Explosion Groups IIC ¹⁾ and IIB3. The temperature class is T4. TRIVAC D 16 B-Ex pumps are explosion resistant and correspond to the state-of-the-art. They are equipped as standard with one each temperature sensor on the intake and delivery side.

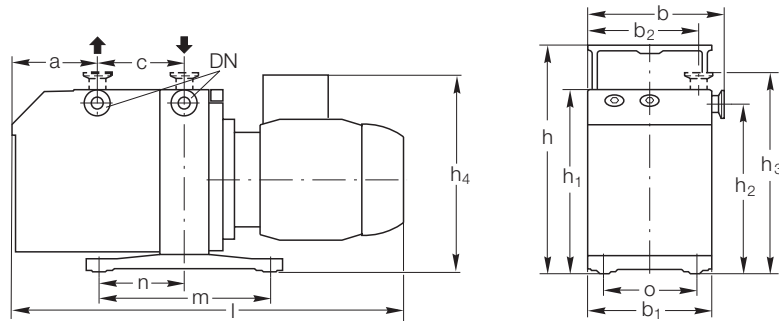
Moreover, the pressure inside the pump is monitored. Flame arresters on the intake and delivery side protect the upstream and downstream system sections. Also provided as standard is an exhaust filter for every pump.

¹⁾ With the exception of acetylene and carbon bisulphide

TRIVAC D 4 B and D 8 B



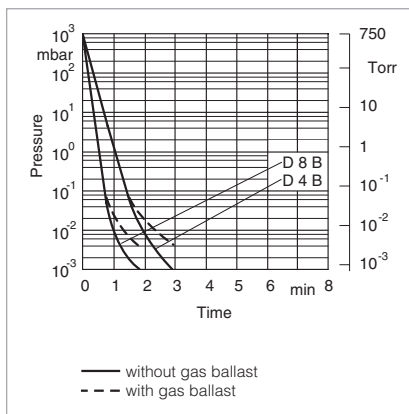
TRIVAC D 4 B (left) and TRIVAC D 8 B (right)



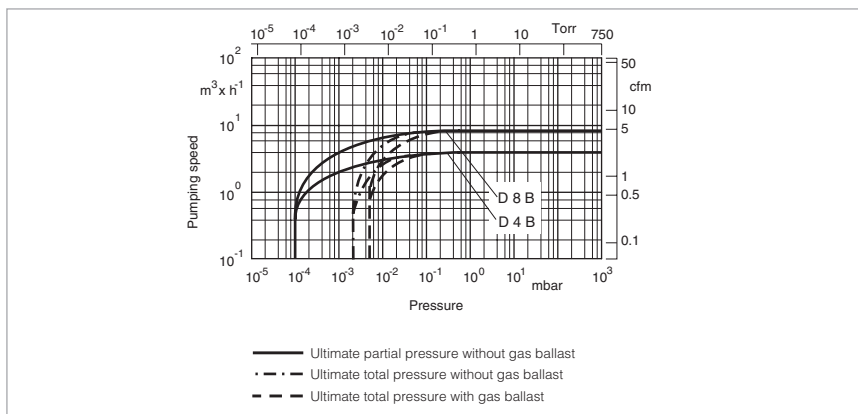
| Type | DN | | a | b | b ₁ | b ₂ | c | h | h ₁ | h ₂ | h ₃ | h ₄ ¹⁾ | l ¹⁾ | m | n | o |
|-------------------------|-------|-----|------|------|----------------|----------------|------|-------|----------------|----------------|----------------|------------------------------|-----------------|------|------|------|
| D 4 B (Part No. 112 45) | 16 KF | mm | 75 | 162 | 147 | 132 | 100 | 265 | 215 | 200 | 230 | 234 | 441 | 198 | 99 | 108 |
| | | in. | 2.95 | 6.38 | 5.79 | 5.23 | 3.94 | 10.43 | 8.46 | 7.87 | 9.06 | 9.21 | 17.36 | 7.80 | 3.90 | 4.25 |
| D 8 B (Part No. 112 55) | 16 KF | mm | 100 | 162 | 147 | 132 | 100 | 265 | 215 | 200 | 230 | 234 | 465 | 198 | 99 | 108 |
| | | in. | 3.94 | 6.38 | 5.79 | 5.23 | 3.94 | 10.43 | 8.46 | 7.87 | 9.06 | 9.21 | 18.31 | 7.80 | 3.90 | 4.25 |

¹⁾ For dimensions h₄ and l for further part numbers, see paragraph "Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE"

Dimensional drawing for the TRIVAC D 4 B and D 8 B



Pump-down characteristics of a 10 l vessel at 50 Hz



Pumping speed characteristics at 50 Hz (60 Hz curves at the end of the chapter)

Technical Data

TRIVAC D 4 B

two-stage

TRIVAC D 8 B

two-stage

50 Hz

60 Hz

50 Hz

60 Hz

| | | 50 Hz | 60 Hz | 50 Hz | 60 Hz |
|---|-------------------------|--|--|--|--|
| Nominal pumping speed ¹⁾ | m ³ /h (cfm) | 4.8 (2.8) | 5.8 (3.4) | 9.7 (5.7) | 11.6 (6.9) |
| Pumping speed ¹⁾ | m ³ /h (cfm) | 4.2 (2.5) | 5.0 (3.0) | 8.5 (5) | 10.2 (6) |
| Ultimate partial pressure without gas ballast ¹⁾ | mbar (Torr) | 10 ⁻⁴ (0.75 x 10 ⁻⁴) | 10 ⁻⁴ (0.75 x 10 ⁻⁴) | 10 ⁻⁴ (0.75 x 10 ⁻⁴) | 10 ⁻⁴ (0.75 x 10 ⁻⁴) |
| Ultimate total pressure without gas ballast ¹⁾ | mbar (Torr) | < 2 x 10 ⁻³ (< 1.5 x 10 ⁻³) | < 2 x 10 ⁻³ (< 1.5 x 10 ⁻³) | < 2 x 10 ⁻³ (< 1.5 x 10 ⁻³) | < 2 x 10 ⁻³ (< 1.5 x 10 ⁻³) |
| Ultimate total pressure with gas ballast ¹⁾ | mbar (Torr) | < 5 x 10 ⁻³ (< 3.8 x 10 ⁻³) | < 5 x 10 ⁻³ (< 3.8 x 10 ⁻³) | < 5 x 10 ⁻³ (< 3.8 x 10 ⁻³) | < 5 x 10 ⁻³ (< 3.8 x 10 ⁻³) |
| Water vapor tolerance ¹⁾ | mbar (Torr) | 30.0 (22.5) | 30.0 (22.5) | 25.0 (18.8) | 25.0 (18.8) |
| Water vapor capacity | g/h (lbs/h) | 95 (0.209) | 110 (0.243) | 160 (0.353) | 190 (0.419) |
| Oil filling, min. / max. | l (qt) | 0.3 / 0.8 (0.3 / 0.85) | 0.3 / 0.8 (0.3 / 0.85) | 0.3 / 0.9 (0.3 / 0.95) | 0.3 / 0.9 (0.3 / 0.95) |
| Noise level ²⁾ to DIN 45 635, without / with gas ballast | dB(A) | 50 / 52 | 50 / 52 | 50 / 52 | 50 / 52 |
| Admissible ambient temperature | °C (°F) | +12 to +40 (+54 to +104) | +12 to +40 (+54 to +104) | +12 to +40 (+54 to +104) | +12 to +40 (+54 to +104) |
| Motor rating ²⁾ | W (HP) | 370 (0.50) | 370 (0.50) | 370 (0.50) | 370 (0.50) |
| Nominal speed | rpm | 1500 | 1800 | 1500 | 1800 |
| Type of protection | IP | 3) | 3) | 3) | 3) |
| Weight ²⁾ | kg (lbs) | 17.9 (39.4) | 17.9 (39.4) | 18.9 (41.6) | 18.9 (46.7) |
| Connections, Intake and Exhaust | DN | 16 KF | 16 KF | 16 KF | 16 KF |

¹⁾ To DIN 28 400 and following numbers

²⁾ Motor rating and noise levels for the pumps with AC motor 50 Hz.

Any data that deviate from the above for pumps with other motors, and other motor-dependent data are given in chapter "Products", paragraph "Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE"

³⁾ See paragraph "Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE"

Ordering Information

TRIVAC D 4 B two-stage

TRIVAC D 8 B two-stage

| | Part No. | Part No. |
|--|------------------------------|------------------------------|
| TRIVAC B | | |
| with 1-phase motor 230 V, 50 Hz ¹⁾ | 112 45 | 112 55 |
| with dual voltage motor ²⁾ 110-115/210-230 V, 50/60 Hz | 140 081 ²⁾ | 140 082 ²⁾ |
| with 3-phase motor 200-240/380-400 V, 50 Hz / 200-240/380-480 V, 60 Hz ¹⁾ | 112 46 | 112 56 |
| 230/400 V, 50 Hz, ATEX Category 3 inside and 3 outside inside: II (i) 3G IIC T4 (50 Hz) outside: II (o) 3G IIC T3 (50 Hz) | 140 140 | 140 150 |
| Mains cord for dual voltage motor ²⁾ | | |
| 230 V Schuko plug | 200 81 091 | 200 81 091 |
| 230 V UK plug | 200 81 097 | 200 81 097 |
| 230 V CH plug | 200 81 099 | 200 81 099 |
| 230 V NEMA plug (200-240 V) | 200 81 141 | 200 81 141 |
| 115 V NEMA plug (100-120 V) | 200 81 090 | 200 81 090 |
| Transition connector (250 V AC, 10 A, L+N+PE) only necessary in Switzerland for 1~ pumps | 800 001 274 | 800 001 274 |
| Accessories | | |
| Dust filter | | |
| Filter pot FH 16 | 140 116 T | 140 116 T |
| Dust filter insert DF 16-25 | 140 117 S | 140 117 S |
| Adsorption trap | | |
| Filter pot FH 16 | 140 116 T | 140 116 T |
| Adsorption filter insert RF 16-25 | 140 118 A | 140 118 A |
| Accessories for dust filter and adsorption trap | | |
| Active charcoal | 178 10 | 178 10 |
| Zeolite | 854 20 | 854 20 |
| Activated aluminium oxide, 1.3 kg (2 l approx.) | 854 10 | 854 10 |
| TK 4-8 cold trap | 188 20 | 188 20 |
| AF 4-8 exhaust filter | 189 06 | 189 06 |
| AR 4-8 exhaust filter with lubricant return | 189 20 | 189 20 |
| AK 4-8 condensate trap | 188 06 | 188 06 |
| OF 4-25 mechanical oil filter | 101 91 | 101 91 |
| CF 4-25 chemical oil filter | 101 96 | 101 96 |
| Connector for gas ballast inlet M 16 x 1.5 – DN 16 KF | 168 40V01 | 168 40V01 |
| Oil drain tap M 16 x 1.5 | 190 90 | 190 90 |
| Spare Parts | | |
| Inner body | E 200 10 989 | E 200 10 991 |
| Major maintenance kit (without oil) | EK 110 002 622 | EK 110 002 620 |
| Minor maintenance kit (without oil) | EK 110 002 628 | EK 110 002 627 |
| Shaft sealing replacement kit | EK 110 002 631 | EK 110 002 631 |
| Small parts kit | EK 110 002 634 | EK 110 002 634 |
| Seal kit | 197 20 | 197 20 |
| For further accessories see section “Accessories for TRIVAC E, B and BCS” | | |

¹⁾ Certification after 94/9/EG (ATEX), Category 3 inside. Inside: II (i) 3G IIC T4 (50 Hz), T3 (60 Hz)

²⁾ A mains cord needs to be ordered additionally

Only available for purchase in North and South America

Ordering Information

TRIVAC D 4 B two-stage

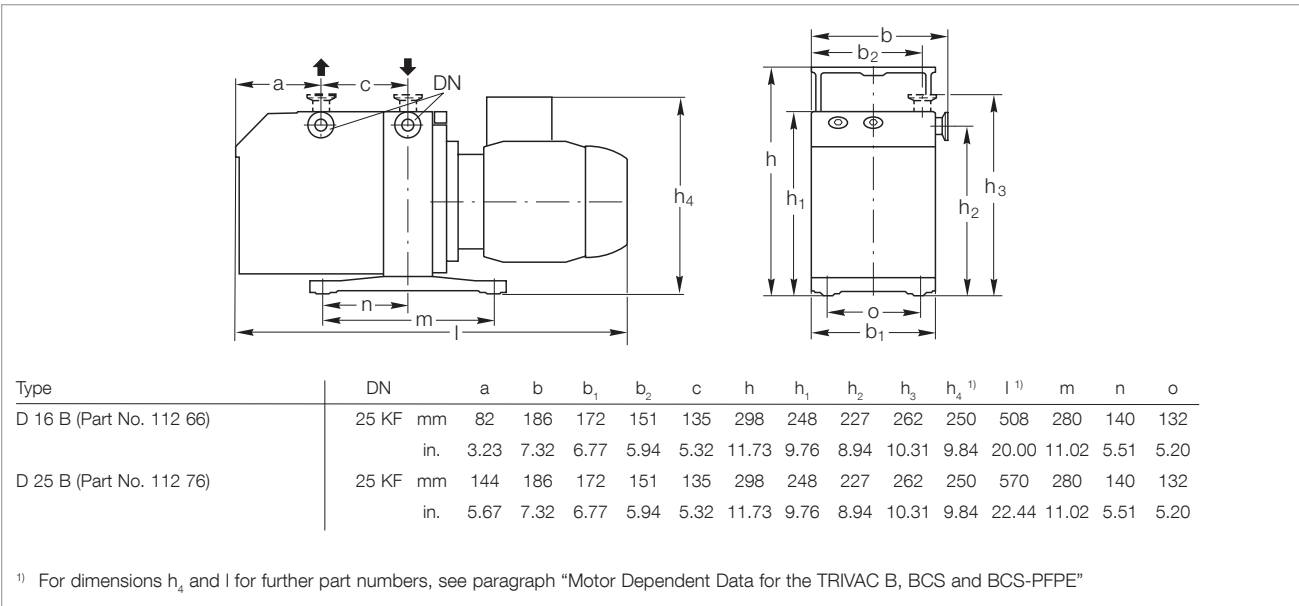
TRIVAC D 8 B two-stage

| | Part No. | Part No. |
|--------------------------------|----------|----------|
| TRIVAC B | | |
| with 1-phase motor | | |
| 115 V, 50/60 Hz, NEMA plug | 912 45-1 | 912 55-1 |
| 208-230 V, 50/60 Hz, NEMA plug | 912 45-2 | 912 55-2 |

TRIVAC D 16 B and D 25 B



TRIVAC D 16 B (left) and TRIVAC D 25 B (right)



Dimensional drawing for the TRIVAC D 16 and D 25 B

Technical Data

TRIVAC D 16 B

TRIVAC D 25 B

two-stage

two-stage

50 Hz

60 Hz

50 Hz

60 Hz

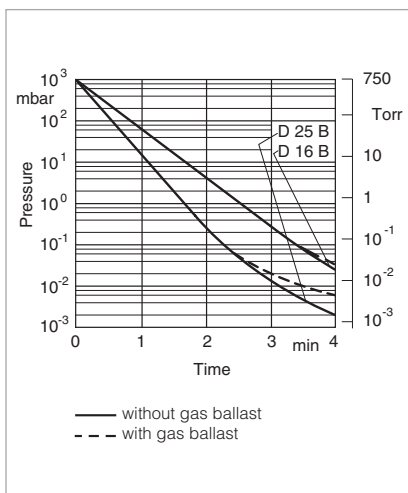
| | | | | | |
|---|-------------------------|--|--|--|--|
| Nominal pumping speed ¹⁾ | m ³ /h (cfm) | 18.9 (11.1) | 22.7 (13.4) | 29.5 (17.4) | 35.4 (20.9) |
| Pumping speed ¹⁾ | m ³ /h (cfm) | 16.5 (9.7) | 19.8 (11.7) | 25.7 (15.1) | 30.8 (18.2) |
| Ultimate partial pressure without gas ballast ¹⁾ | mbar (Torr) | 10 ⁻⁴ (0.75 x 10 ⁻⁴) | 10 ⁻⁴ (0.75 x 10 ⁻⁴) | 10 ⁻⁴ (0.75 x 10 ⁻⁴) | 10 ⁻⁴ (0.75 x 10 ⁻⁴) |
| Ultimate total pressure without gas ballast ¹⁾ | mbar (Torr) | < 2 x 10 ⁻³ (1.5 x 10 ⁻³) | < 2 x 10 ⁻³ (1.5 x 10 ⁻³) | < 2 x 10 ⁻³ (1.5 x 10 ⁻³) | < 2 x 10 ⁻³ (1.5 x 10 ⁻³) |
| Ultimate total pressure with gas ballast ¹⁾ | mbar (Torr) | < 5 x 10 ⁻³ (3.8 x 10 ⁻³) | < 5 x 10 ⁻³ (3.8 x 10 ⁻³) | < 5 x 10 ⁻³ (3.8 x 10 ⁻³) | < 5 x 10 ⁻³ (3.8 x 10 ⁻³) |
| Water vapor tolerance ¹⁾ | mbar (Torr) | 25.0 (18.8) | 25.0 (18.8) | 25.0 (18.8) | 25.0 (18.8) |
| Water vapor capacity | g/h (lbs/h) | 305 (0.672) | 370 (0.816) | 480 (1.058) | 570 (1.257) |
| Oil filling, min. / max. | l (qt) | 0.5 / 1.0 (0.5 / 1.1) | 0.5 / 1.0 (0.5 / 1.1) | 0.6 / 1.4 (0.6 / 1.5) | 0.6 / 1.4 (0.6 / 1.5) |
| Noise level ²⁾ to DIN 45 635, without / with gas ballast | dB(A) | 54 / 56 | 54 / 56 | 54 / 56 | 54 / 56 |
| Admissible ambient temperature | °C (°F) | +12 to +40 (+54 to +104) | +12 to +40 (+54 to +104) | +12 to +40 (+54 to +104) | +12 to +40 (+54 to +104) |
| Motor rating ²⁾ | W (HP) | 550 - 750 (0.75 - 1.0) | 550 - 750 (0.75 - 1.0) | 750 (1) | 750 (1) |
| Nominal speed | rpm | 1500 | 1800 | 1500 | 1800 |
| Type of protection | IP | ³⁾ | ³⁾ | ³⁾ | ³⁾ |
| Weight ²⁾ | kg (lbs) | 31.5 (69.3) | 31.5 (69.3) | 41.4 (91.1) | 41.4 (91.1) |
| Connections, Intake and Exhaust | DN | 25 KF | 25 KF | 25 KF | 25 KF |

¹⁾ To DIN 28 400 and following numbers

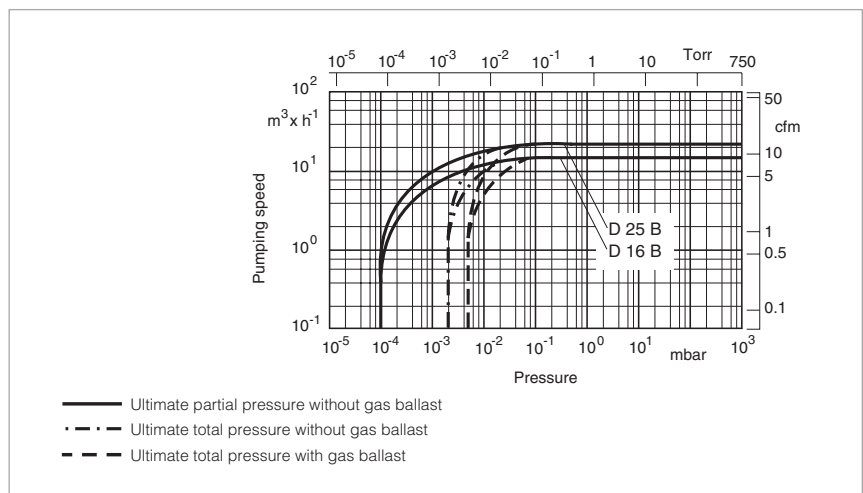
²⁾ Motor rating and noise levels for the pumps with AC motor 50 Hz.

Any data that deviate from the above for pumps with other motors, and other motor-dependent data are given in chapter "Products", paragraph "Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE"

³⁾ See paragraph "Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE"



Pump-down characteristics of a 100 l vessel at 50 Hz



Pumping speed characteristics at 50 Hz (60 Hz curves at the end of the chapter)

Ordering Information

TRIVAC D 16 B two-stage

TRIVAC D 25 B two-stage

| | Part No. | Part No. |
|---|--|-----------------------------|
| TRIVAC B | | |
| with 1-phase motor | | |
| 230 V, 50/60 Hz ¹⁾ | 112 65 | 112 75 |
| 218-242 V, 50/60 Hz ¹⁾ | 113 25 ²⁾ | 113 35 ²⁾ |
| 110/220 V, 50 Hz / 115/208-230 V, 60 Hz ³⁾ | 898 698 | - |
| with 3-phase motor | | |
| 200-240 V (200 V IE2) / 380-400 V (380-400 V IE 2), 50 Hz / 200-240 (208-240 V EPact) / 380-480 V (416-480 V EPact), 60 Hz ¹⁾ | 112 66 113 33 (LVO 210) | 112 76 |
| 230/400 V, 50 Hz, ATEX Category 3 inside and 3 outside inside: II (i) 3G IIC T4 (50 Hz) outside: II (o) 3G IIC T3 (50 Hz) | 140 160 | 140 170 |
| Accessories | | |
| Mains cord for Part No. 898 698 | | |
| 115 V | E 721 27 877 | - |
| 230 V | E 721 27 878 | - |
| Dust filter | | |
| Filter pot FH 16 | 140 125 T | 140 125 T |
| Dust filter insert DF 16-25 | 140 117 S | 140 117 S |
| Adsorption trap | | |
| Filter pot FH 25 | 140 125 T | 140 125 T |
| Adsorption filter insert RF 16-25 | 140 118 A | 140 118 A |
| Accessories for dust filter and adsorption trap | | |
| Active charcoal | 178 10 | 178 10 |
| Zeolite | 854 20 | 854 20 |
| Activated aluminium oxide, 1.3 kg (2 l approx.) | 854 10 | 854 10 |
| AF 16-25 exhaust filter | 189 11 | 189 11 |
| AR 16-25 exhaust filter with lubricant return | 189 21 | 189 21 |
| AK 16-25 condensate trap | 188 11 | 188 11 |
| OF 4-25 mechanical oil filter | 101 91 | 101 91 |
| CF 4-25 chemical oil filter | 101 96 | 101 96 |
| Connector for gas ballast inlet M 16 x 1.5 – DN 16 KF | 168 40V01 | 168 40V01 |
| Oil drain tap M 16 x 1.5 | 190 90 | 190 90 |
| Spare Parts | | |
| Inner body | E 200 10 956 | E 200 10 960 |
| Major maintenance kit (without oil) | EK 110 002 618 | EK 110 002 616 |
| Minor maintenance kit (without oil) | EK 110 002 626 | EK 110 002 625 |
| Shaft sealing ring replacement kit | EK 110 002 630 | EK 110 002 630 |
| Small parts kit | EK 110 002 635 | EK 110 002 635 |
| Seal kit | 197 21 | 197 21 |
| For further accessories see section “Accessories for TRIVAC E, B and BCS” | | |

¹⁾ Certification after 94/9/EG (ATEX), Category 3 inside. Inside: II (i) 3G IIC T4 (50 Hz), T3 (60 Hz)

²⁾ With cable EURO Schuko. Other cables for wide range motor upon request

³⁾ Mains cord for dual voltage motor see paragraph “Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE”; TRIVAC D 16 B / D 25 B

Only available for purchase in North and South America

Ordering Information

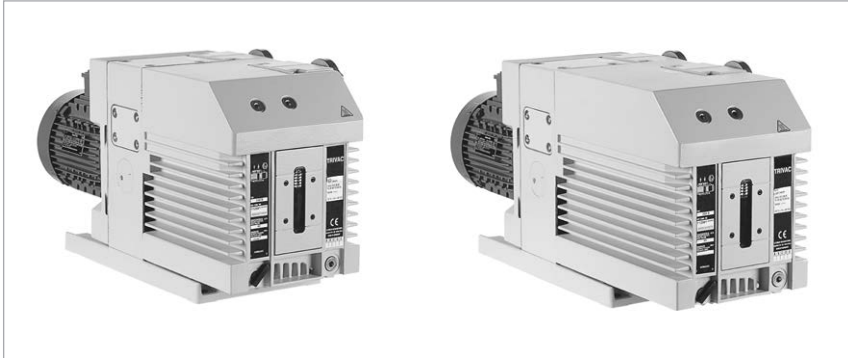
TRIVAC D 16 B two-stage

TRIVAC D 25 B two-stage

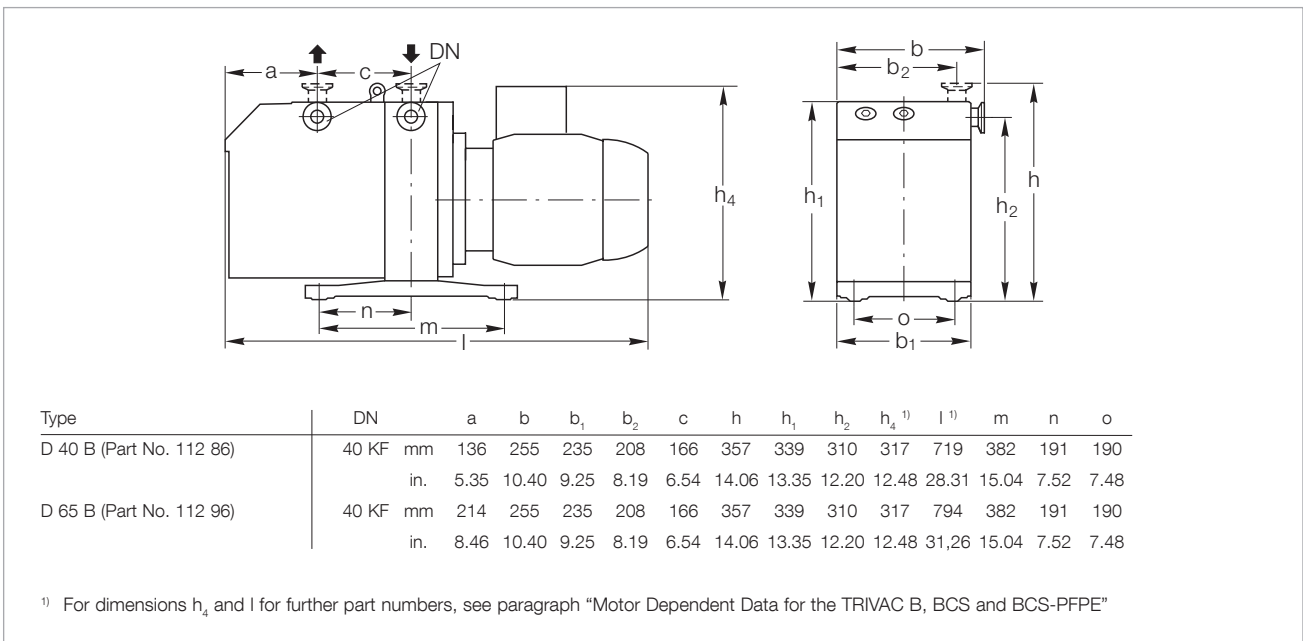
| | Part No. | Part No. |
|--------------------------------|-----------------|-----------------|
| TRIVAC B | | |
| with 1-phase motor | | |
| 110 V, 50 Hz, NEMA plug / | | |
| 115 V, 60 Hz, NEMA plug | 912 65-1 | - |
| 208-230 V, 60/50 Hz, NEMA plug | 912 65-2 | - |
| 208-230 V, 60/50 Hz, NEMA plug | - | 912 75-2 |

Oil Sealed
Vacuum Pumps

TRIVAC D 40 B and D 65 B



TRIVAC D 40 B (left) and TRIVAC D 65 B (right)



Dimensional drawing for the TRIVAC D 40 and D 65 B

Technical Data

TRIVAC D 40 B

two-stage

TRIVAC D 65 B

two-stage

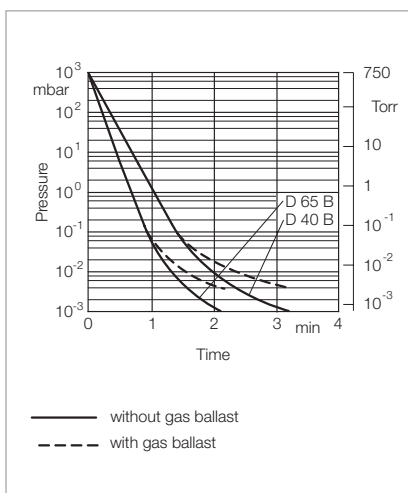
| | | 50 Hz | 60 Hz | 50 Hz | 60 Hz |
|---|-------------------------|--|--|--|--|
| Nominal pumping speed ¹⁾ | m ³ /h (cfm) | 46 (27) | 55 (32.5) | 75 (44) | 90 (53) |
| Pumping speed ¹⁾ | m ³ /h (cfm) | 40 (24) | 48 (28) | 65 (38) | 78 (46) |
| Ultimate partial pressure without gas ballast ¹⁾ | mbar (Torr) | 10 ⁻⁴ (0.75 x 10 ⁻⁴) | 10 ⁻⁴ (0.75 x 10 ⁻⁴) | 10 ⁻⁴ (0.75 x 10 ⁻⁴) | 10 ⁻⁴ (0.75 x 10 ⁻⁴) |
| Ultimate total pressure without gas ballast ¹⁾ | mbar (Torr) | < 2 x 10 ⁻³ (< 1.5 x 10 ⁻³) | < 2 x 10 ⁻³ (< 1.5 x 10 ⁻³) | < 2 x 10 ⁻³ (< 1.5 x 10 ⁻³) | < 2 x 10 ⁻³ (< 1.5 x 10 ⁻³) |
| Ultimate total pressure with gas ballast ¹⁾ | mbar (Torr) | < 5 x 10 ⁻³ (< 3.8 x 10 ⁻³) | < 5 x 10 ⁻³ (< 3.8 x 10 ⁻³) | < 5 x 10 ⁻³ (< 3.8 x 10 ⁻³) | < 5 x 10 ⁻³ (< 3.8 x 10 ⁻³) |
| Water vapor tolerance ¹⁾ | mbar (Torr) | 40 (30) | 40 (30) | 40 (30) | 40 (30) |
| Water vapor capacity | g/h (lbs/h) | 1185 (2.612) | 1420 (3.131) | 1925 (4.244) | 2310 (5.093) |
| Oil filling, min. / max. | l (qt) | 1.7 / 2.6 (1.8 / 2.7) | 1.7 / 2.6 (1.8 / 2.7) | 2.0 / 3.3 (2.1 / 3.5) | 2.0 / 3.3 (2.1 / 3.5) |
| Noise level ²⁾ to DIN 45 635, without / with gas ballast | dB(A) | 57 / 59 | 57 / 59 | 57 / 59 | 57 / 59 |
| Admissible ambient temperature | °C (°F) | +12 to +40 (+54 to +104) | +12 to +40 (+54 to +104) | +12 to +40 (+54 to +104) | +12 to +40 (+54 to +104) |
| Motor rating 50/60 Hz ²⁾ | W (HP) | 2200 (3.0) | 2200 (3.0) | 2200 (3.0) | 2200 (3.0) |
| Nominal speed ²⁾ | rpm | 1420 | 1710 | 1420 | 1710 |
| Type of protection | IP | ³⁾ | ³⁾ | ³⁾ | ³⁾ |
| Weight ²⁾ | kg (lbs) | 72.5 (160) | 72.5 (160) | 81.7 (180) | 81.7 (180) |
| Connections, Intake and Exhaust | DN | 40 KF | 40 KF | 40 KF | 40 KF |

¹⁾ To DIN 28 400 and following numbers

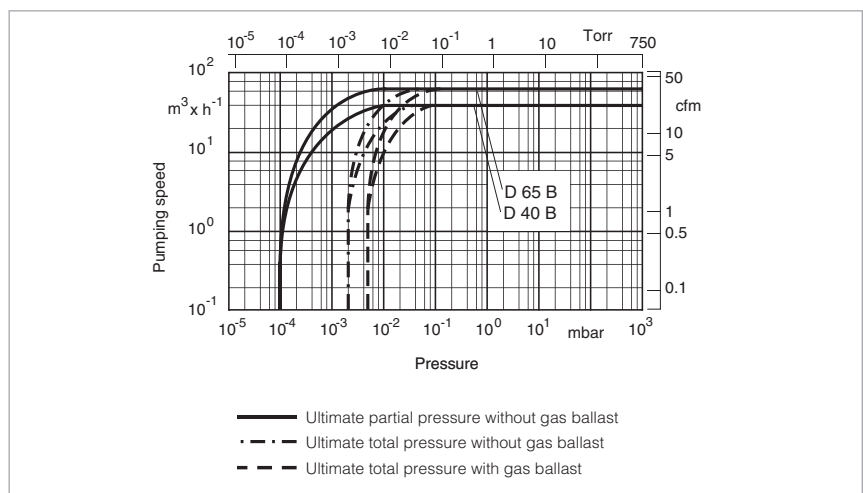
²⁾ Motor rating and noise levels for the pumps with AC motor 50 Hz.

Any data that deviate from the above for pumps with other motors, and other motor-dependent data are given in chapter "Products", paragraph "Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE"

³⁾ See paragraph "Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE"



Pump-down characteristics of a 100 l vessel at 50 Hz



Pumping speed characteristics at 50 Hz (60 Hz curves at the end of the chapter)

Ordering Information

TRIVAC D 40 B two-stage

TRIVAC D 65 B two-stage

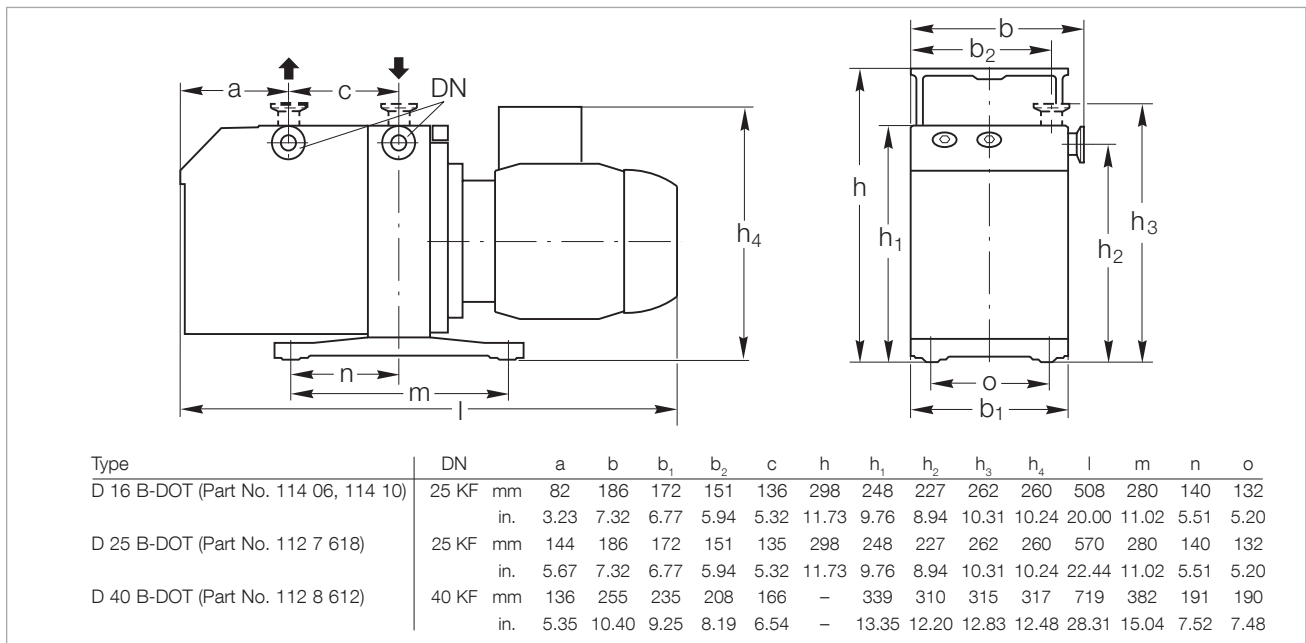
| | Part No. | Part No. |
|---|-----------------------|-----------------------|
| TRIVAC B | | |
| with 3-phase motor 200-240 V (200 V IE2) / 380-400 V (380-400 V IE 2), 50 Hz / 200-240 V (208-240 V EPact) / 380-480 V (416-480 V EPact), 60 Hz ¹⁾ | 112 86 | 112 96 |
| 219-242/380-420 V, 50 Hz ATEX Category 3 inside and 3 outside inside: II (i) 3G IIC T4 (50 Hz) outside: II (o) 3G IIC T3 (50 Hz) | 140 180 | 140 190 |
| Accessories | | |
| Roots pump adaptor | 168 30 | 168 30 |
| AS 30-60 dust separator | 186 16 | 186 16 |
| MF 30-60 molecular filter | 186 17 | 186 17 |
| Dust filter | | |
| Filter pot FH 40-65 | 140 140 T | 140 140 T |
| Dust filter insert DF 40-65 | 140 141 S | 140 141 S |
| Adsorption trap | | |
| Filter pot FH 40-65 | 140 140 T | 140 140 T |
| Adsorption filter insert RF 40-65 | 140 142 A | 140 142 A |
| Accessories for dust filter and adsorption trap | | |
| Active charcoal | 178 10 | 178 10 |
| Zeolite | 854 20 | 854 20 |
| Activated aluminium oxide, 1.3 kg (2 l approx.) | 854 10 | 854 10 |
| AF 40-65 exhaust filter | 189 16 | 189 16 |
| AR 40-65 exhaust filter with lubricant return | 189 22 | 189 22 |
| AK 40-65 condensate trap | 188 16 | 188 16 |
| OF 40-65 mechanical oil filter | 101 92 | 101 92 |
| CF 40-65 chemical oil filter | 101 97 | 101 97 |
| Connector for gas ballast inlet M 16 x 1.5 – DN 16 KF | 168 40V01 | 168 40V01 |
| Oil drain tap M 16 x 1.5 | 190 90 | 190 90 |
| Spare Parts | | |
| Inner body | E 200 10 933 | E 200 10 944 |
| Major maintenance kit (without oil) | EK 110 002 613 | EK 110 002 612 |
| Minor maintenance kit (without oil) | EK 110 002 624 | EK 110 002 624 |
| Shaft sealing ring replacement kit | EK 110 002 629 | EK 110 002 629 |
| Small parts kit | EK 110 002 636 | EK 110 002 636 |
| Seal kit | 197 22 | 197 22 |
| For further accessories see section “Accessories for TRIVAC E, B and BCS” | | |

¹⁾ Certification after 94/9/EG (ATEX), Category 3 inside. Inside: II (i) 3G IIC T4 (50 Hz), T3 (60 Hz)

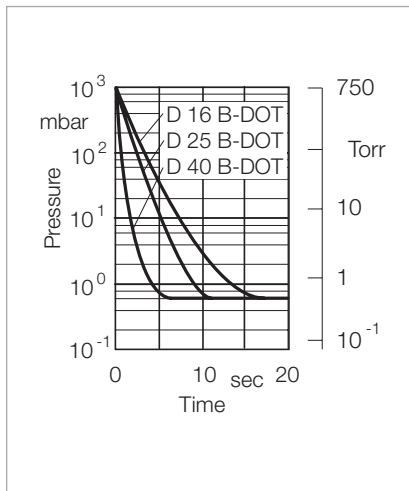
TRIVAC D 16 B-DOT to D 40 B-DOT



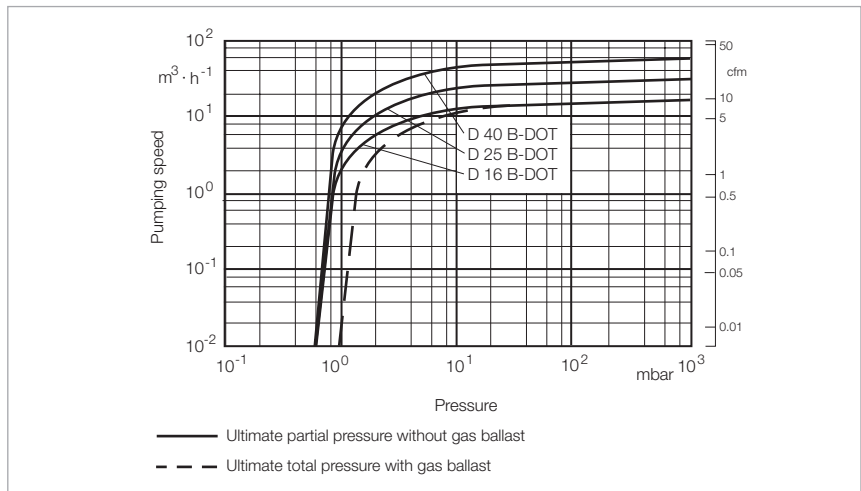
TRIVAC D 16 B-DOT



Dimensional drawing for the TRIVAC D B-DOT pumps



Pump-down characteristics of a 10 l vessel at 50 Hz



Pumping speed characteristics at 50 Hz (60 Hz curves at the end of the chapter)

Technical Data**TRIVAC D 16 B-DOT****two-stage****50 Hz****60 Hz**

| | | 50 Hz | 60 Hz |
|---|-------------------------|---|---|
| Nominal pumping speed ¹⁾ | m ³ /h (cfm) | 18.9 (11.1) | 22.7 (13.4) |
| Pumping speed ¹⁾ | m ³ /h (cfm) | 16.5 (9.7) | 19.8 (11.7) |
| Ultimate total pressure without gas ballast ¹⁾ | mbar (Torr) | < 6 x 10 ⁻¹ (< 4.5 x 10 ⁻¹) | < 6 x 10 ⁻¹ (< 4.5 x 10 ⁻¹) |
| Ultimate total pressure with gas ballast ¹⁾ | mbar (Torr) | < 9 x 10 ⁻¹ (< 6.75 x 10 ⁻¹) | < 9 x 10 ⁻¹ (< 6.75 x 10 ⁻¹) |
| Water vapor tolerance ¹⁾ | mbar (Torr) | 25 (18.75) | 25 (18.75) |
| Water vapor capacity | g/h (lbs/h) | 305 (0.672) | 370 (0.815) |
| Brake fluid filling, min. / max. | l (qt) | 0.45 / 1.0 (0.5 / 1.1) | 0.45 / 1.0 (0.5 / 1.1) |
| Noise level to DIN 45 635, without / with gas ballast | dB(A) | 54 / 56 | 54 / 56 |
| Admissible ambient temperature | °C (°F) | +12 to +40 (+54 to +104) | +12 to +40 (+54 to +104) |
| Motor rating | W (HP) | 550 (0.75) | 550 (0.75) |
| Nominal speed | rpm | 1500 | 1800 |
| Type of protection | IP | 2) | 2) |
| Weight | kg (lbs) | 31.7 (69.7) | 31.7 (69.7) |
| Connections, Intake and Exhaust | DN | 25 KF | 25 KF |

¹⁾ To DIN 28 400 and following numbers

²⁾ See paragraph "Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE"

Ordering Information**TRIVAC D 16 B-DOT****two-stage**

| | Part No. |
|---|---|
| TRIVAC B-DOT with 3-phase motor 200-240 V (200 V IE2) / 380-400 V (380-400 V IE 2), 50 Hz / 200-240 (208-240 V EPact) / 380-480 V (416-480 V EPact), 60 Hz | 114 06 114 10 (with limit switch system LSS 16-25) |
| AF 16-25 DOT exhaust filter | 124 16 |
| AK DOT condensate trap | 110 78 |
| Seal kit DOT | 200 39 059 |

Technical Data

TRIVAC D 25 B-DOT two-stage

| | | 50 Hz | 60 Hz |
|---|-------------------------|---|---|
| Nominal pumping speed ¹⁾ | m ³ /h (cfm) | 29.5 (17.4) | 35.4 (20.9) |
| Pumping speed ¹⁾ | m ³ /h (cfm) | 25.7 (17.4) | 30.8 (18.2) |
| Ultimate total pressure without gas ballast ¹⁾ | mbar (Torr) | < 6 x 10 ⁻¹ (< 4.5 x 10 ⁻¹) | < 6 x 10 ⁻¹ (< 4.5 x 10 ⁻¹) |
| Ultimate total pressure with gas ballast ¹⁾ | mbar (Torr) | < 9 x 10 ⁻¹ (< 6.75 x 10 ⁻¹) | < 9 x 10 ⁻¹ (< 6.75 x 10 ⁻¹) |
| Water vapor tolerance ¹⁾ | mbar (Torr) | 25 (18.75) | 25 (18.75) |
| Water vapor capacity | g/h (lbs/h) | 480 (1.058) | 570 (1.257) |
| Brake fluid filling, min. / max. | l (qt) | 0.6 / 1.4 (6.3 / 1.5) | 0.6 / 1.4 (6.3 / 1.5) |
| Noise level to DIN 45 635, without / with gas ballast | dB(A) | 54 / 56 | 54 / 56 |
| Admissible ambient temperature | °C (°F) | +12 to +40 (+54 to +104) | +12 to +40 (+54 to +104) |
| Motor rating | W (HP) | 550 (0.75) | 550 (0.75) |
| Nominal speed | rpm | 1500 | 1800 |
| Type of protection | IP | ²⁾ | ²⁾ |
| Weight | kg (lbs) | 36.0 (79.2) | 36.0 (79.2) |
| Connections, Intake and Exhaust | DN | 25 KF | 25 KF |

¹⁾ To DIN 28 400 and following numbers

²⁾ See paragraph "Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE"

Ordering Information

TRIVAC D 25 B-DOT two-stage

| | Part No. |
|---|-------------------|
| TRIVAC B-DOT with 3-phase motor 200-240 V (200 V IE2) / 380-400 V (380-400 V IE 2), 50 Hz / 200-240 (208-240 V EPact) / 380-480 V (416-480 V EPact), 60 Hz | 112 76 18 |
| AF 16-25 DOT exhaust filter | 124 16 |
| AK DOT condensate trap | 110 78 |
| Seal kit DOT | 200 39 059 |

Technical Data

TRIVAC D 40 B-DOT two-stage

| | | 50 Hz | 60 Hz |
|---|-------------------------|--|--|
| Nominal pumping speed ¹⁾ | m ³ /h (cfm) | 46.0 (27.0) | 55.0 (32.5) |
| Pumping speed ¹⁾ | m ³ /h (cfm) | 40.0 (24.0) | 48.0 (28.0) |
| Ultimate total pressure without gas ballast ¹⁾ | mbar (Torr) | $< 6 \times 10^{-1}$ ($< 4.5 \times 10^{-1}$) | $< 6 \times 10^{-1}$ ($< 4.5 \times 10^{-1}$) |
| Ultimate total pressure with gas ballast ¹⁾ | mbar (Torr) | $< 9 \times 10^{-1}$ ($< 6.75 \times 10^{-1}$) | $< 9 \times 10^{-1}$ ($< 6.75 \times 10^{-1}$) |
| Water vapor tolerance ¹⁾ | mbar (Torr) | 40 (30) | 40 (30) |
| Water vapor capacity | g/h (lbs/h) | 1185 (2.612) | 1420 (3.130) |
| Brake fluid filling, min. / max. | l (qt) | 1.7 / 2.6 (1.8 / 2.7) | 1.7 / 2.6 (1.8 / 2.7) |
| Noise level to DIN 45 635, without / with gas ballast | dB(A) | 57 / 59 | 57 / 59 |
| Admissible ambient temperature | °C (°F) | +12 to +40 (+54 to +104) | +12 to +40 (+54 to +104) |
| Motor rating | W (HP) | 2200 (3.0) | 2200 (3.0) |
| Nominal speed | rpm | 1500 | 1800 |
| Type of protection | IP | 2) | 2) |
| Weight | kg (lbs) | 73 (161) | 73 (161) |
| Connections, Intake and Exhaust | DN | 40 KF | 40 KF |

¹⁾ To DIN 28 400 and following numbers

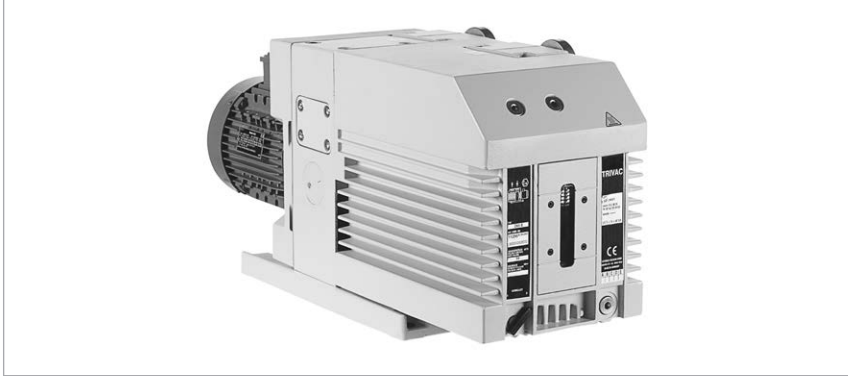
²⁾ See paragraph "Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE"

Ordering Information

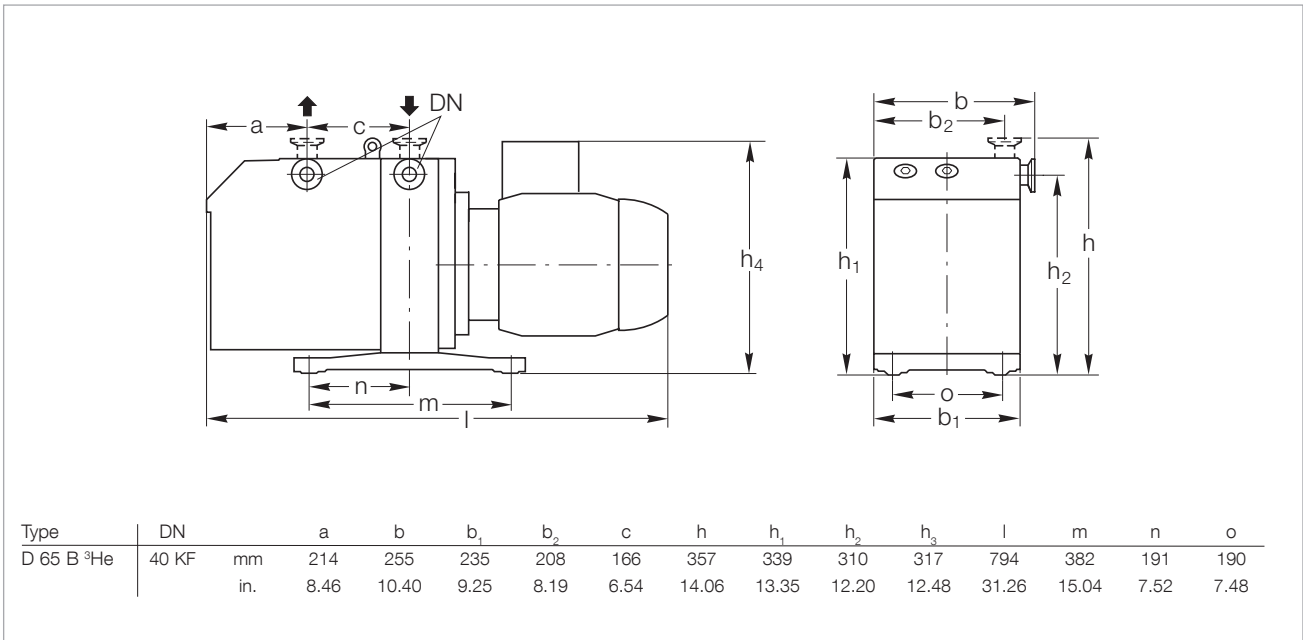
TRIVAC D 40 B-DOT two-stage

| | Part No. |
|---|---------------------|
| TRIVAC B-DOT with 3-phase motor 200-240 V (200 V IE2) / 380-400 V (380-400 V IE 2), 50 Hz / 200-240 V (208-240 V EPact) / 380-480 V (416-480 V EPact), 60 Hz | 112 86 12 |
| AF 40-65 DOT exhaust filter | 101 15 |
| AK DOT condensate trap | upon request |
| Seal kit DOT | 200 39 707 |

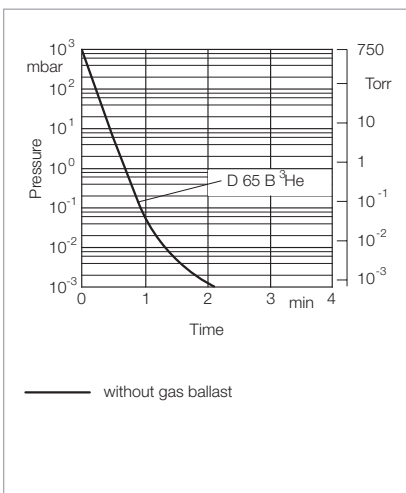
TRIVAC D 65 B ³He



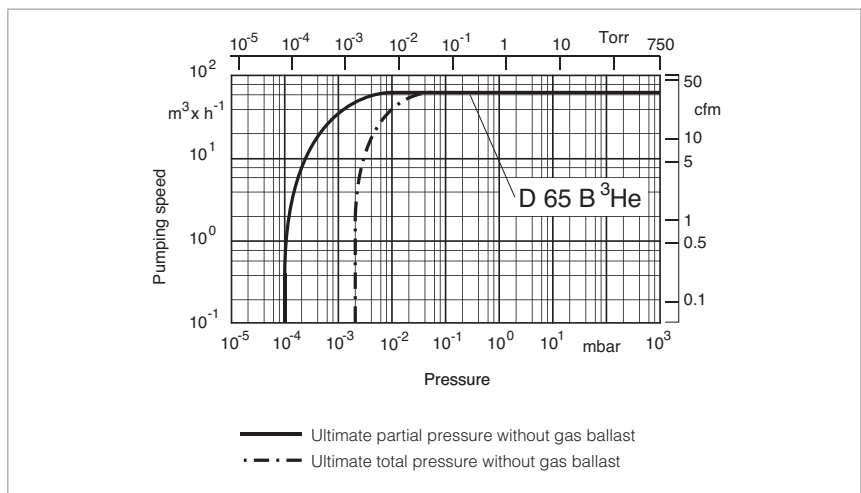
TRIVAC D 65 B ³He



Dimensional drawing for the TRIVAC D 65 B ³He



Pump-down characteristics of a 100 l vessel at 50 Hz



Pumping speed characteristics at 50 Hz (60 Hz curves at the end of the chapter)

Technical Data**TRIVAC D 65 B ³He**

| | | 50 Hz | 60 Hz |
|---|------------------------------|--|--|
| Nominal pumping speed ¹⁾ | m ³ /h (cfm) | 75 (44) | 90 (53) |
| Pumping speed ¹⁾ | m ³ /h (cfm) | 65 (38) | 78 (46) |
| Ultimate partial pressure without gas ballast ¹⁾ | mbar (Torr) | 10 ⁻⁴ (0.75 x 10 ⁻⁴) | 10 ⁻⁴ (0.75 x 10 ⁻⁴) |
| Ultimate total pressure without gas ballast ¹⁾ | mbar (Torr) | < 2.0 x 10 ⁻³ (< 1.5 x 10 ⁻³) | < 2.0 x 10 ⁻³ (< 1.5 x 10 ⁻³) |
| Oil filling with LEYBONOL LVO 100, min. / max. | l (qt) | 2.0 / 3.3 (2.1 / 3.5) | 2.0 / 3.3 (2.1 / 3.5) |
| Leak rate | mbar x l x sec ⁻¹ | < 1.0 x 10 ⁻⁷ | < 1.0 x 10 ⁻⁷ |
| Noise level to DIN 45 635, without / with gas ballast | dB(A) | 57 / 59 | 57 / 59 |
| Admissible ambient temperature | °C (°F) | +12 to +40 (+54 to +104) | +12 to +40 (+54 to +104) |
| Motor rating ²⁾ | W (HP) | 2200 (3) | 2200 (3) |
| Nominal speed ²⁾ | rpm | 1500 | 1800 |
| Type of protection | IP | ³⁾ | ³⁾ |
| Weight | kg (lbs) | 81.7 (180) | 81.7 (180) |
| Connections, Intake and Exhaust | DN | 40 KF | 40 KF |

Ordering Information**TRIVAC D 65 B ³He**

| | Part No. |
|---|------------------|
| TRIVAC B ³ He with 3-phase motor 200-240 V (200 V IE2) / 380-400 V (380-400 V IE 2), 50 Hz / 200-240 V (208-240 V EPact) / 380-480 V (416-480 V EPact), 60 Hz ¹⁾ | 112 96 46 |

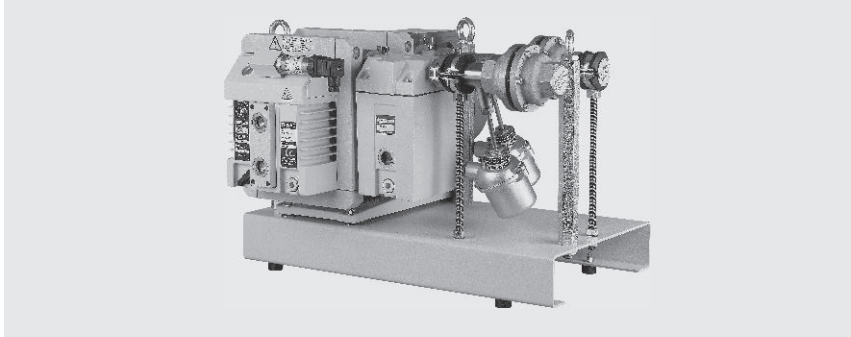
¹⁾ To DIN 28 400 and following numbers

²⁾ Motor rating and noise levels for the pumps with AC motor 50 Hz.

Any data that deviate from the above for pumps with other motors, and other motor-dependent data are given in chapter "Products", paragraph "Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE"

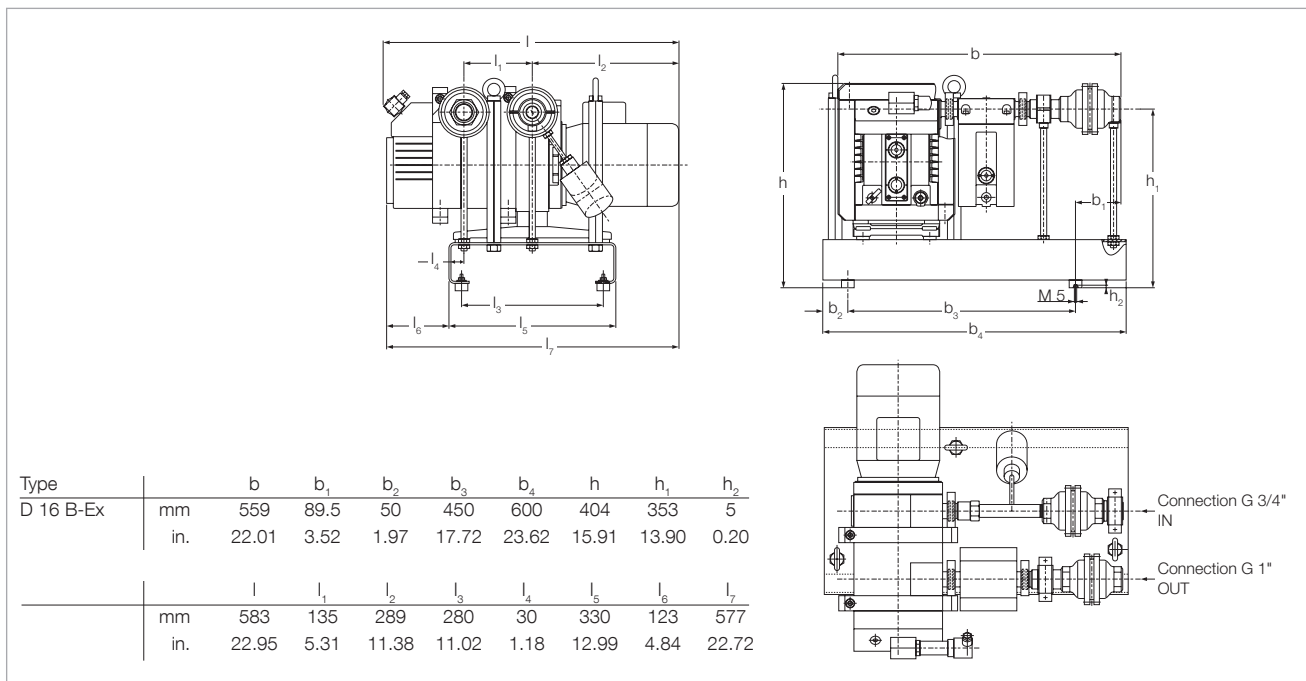
³⁾ See paragraph "Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE"

TRIVAC D 16 B-Ex (Explosion Protected and Pressure Burst Resistant)

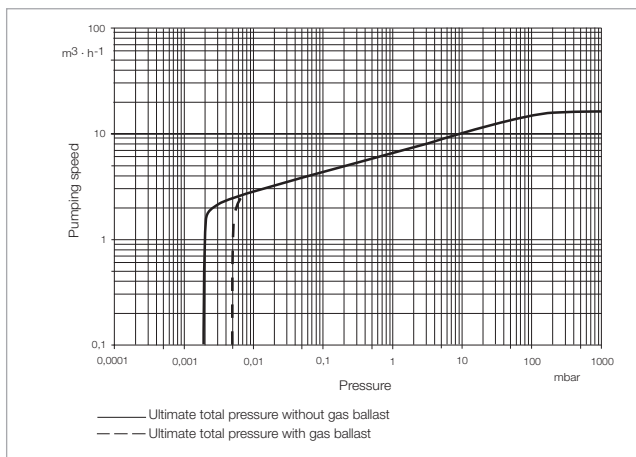


ATEX
Category 1 inside and 2 outside

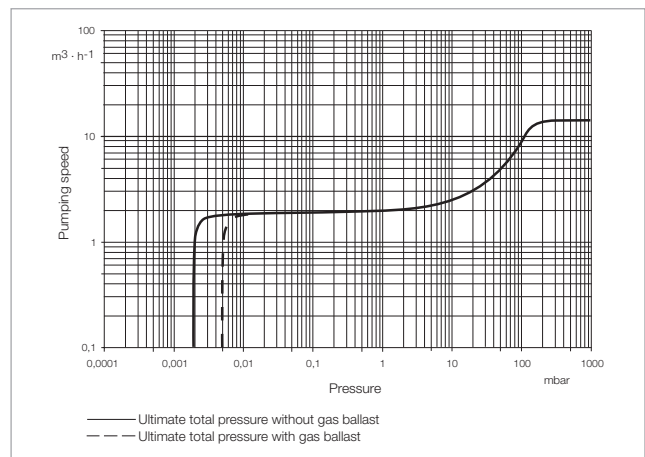
TRIVAC D 16 B-Ex



Dimensional drawing for the TRIVAC D 16 B-Ex (explosion protected and pressure burst resistant)



Pumping speed characteristics of TRIVAC D 16 B-Ex [IIB3 T4]
 (Part No. 140 091)




Pumping speed characteristics of TRIVAC D 16 B-Ex [IIC T4]
 (Part No. 140 092)

Technical Data**TRIVAC D 16 B-Ex****(Explosion Protected and Pressure Burst Resistant) Two-Stage**

| | | |
|---|-------------------------|--|
| Nominal pumping speed ¹⁾ | m ³ /h (cfm) | 18.9 (11.1) |
| Pumping speed (for Part No. 140 091 / 140 092) ¹⁾ | m ³ /h (cfm) | 16 / 15 (9.4/8.8) |
| Ultimate partial pressure without gas ballast ¹⁾ | mbar (Torr) | 1 x 10 ⁻⁴ (< 0.75 x 10 ⁻³) |
| Ultimate total pressure with gas ballast ¹⁾ | mbar (Torr) | < 5 x 10 ⁻³ (< 3.8 x 10 ⁻³) |
| Water vapor tolerance ¹⁾ | mbar (Torr) | 25 (18.75) |
| Water vapor capacity | g/h (lbs/h) | 305 (0.672) |
| Oil filling, min. / max. | l (qt) | 0.55 / 1.3 (0.58 / 1.4) |
| Motor | | 3~, 230 V / 400 V, 50 Hz, Ex e II T4 |
| Type of protection | IP | 54 |
| Maximum gas inlet temperature | °C (°F) | 60 (140) |
| Highest permissible pressure in the oil box | mbar (Torr) | 1500 (1125) |
| Ambient temperature (t _a) | °C (°F) | +12 to +40 (+46 to +104) |
| Maximum surface temperature | °C (°F) | 135 (275) |
| Max. Inlet pressure | mbar (Torr) | Atmospheric pressure |
| Weight (complete system) | kg (lbs) | 72 (159) |
| Materials (materials in contact with the gas) | | Steel, hardened steel, spring steel, stainless steel, zinc, aluminium and aluminium alloys, grey cast iron 25, FKM, felt, glass, silicone, polyamide |
| Connections | | |
| Intake side | Inside thread | G 3/4" |
| Pressure side | Inside thread | G 1" |

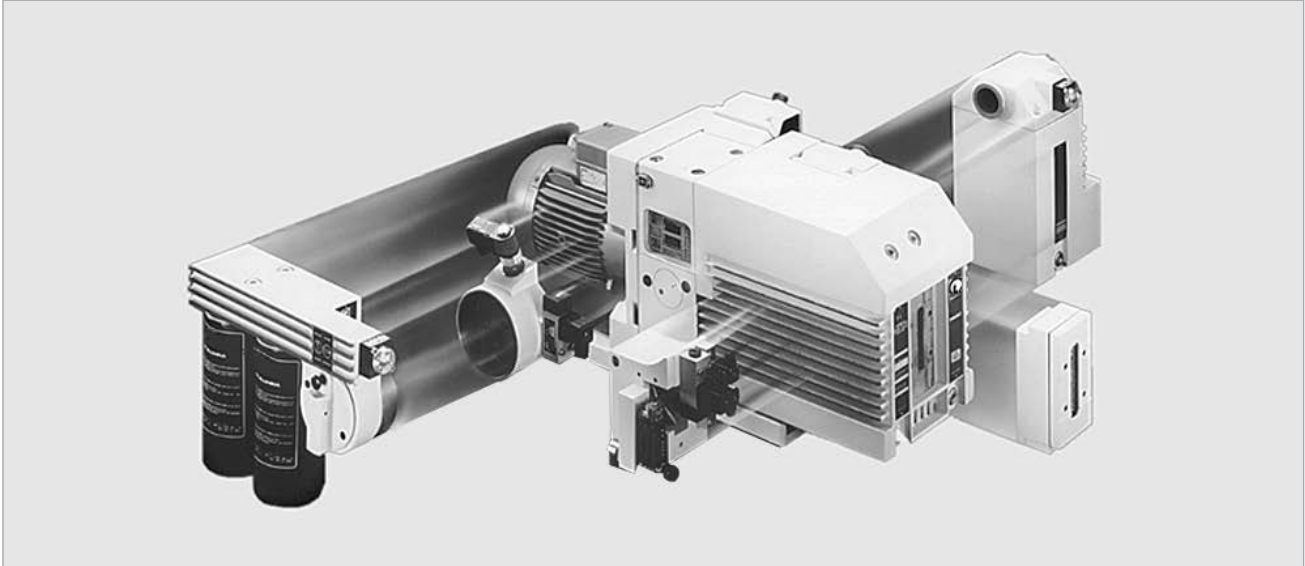
Ordering Information**TRIVAC D 16 B-Ex****(Explosion Protected and Pressure Burst Resistant) Two-Stage**

| | Part No. |
|---|------------------------------|
| TRIVAC D 16 B-Ex IIB3 T4 in accordance with 94/9/EC [ II inside: 1G IIB3 T4 outside: 2G IIB T4 (12 °C < t _a < 40 °C) X EC Type Examination Certificate: IBExU03ATEX1017 X] | 140 091 |
| TRIVAC D 16 B-Ex IIC T4 ²⁾ in accordance with 94/9/EC [ II inside: 1G IIC (no C ₂ H ₂ , CS ₂) T4 outside: 2G IIC T4 (12 °C < t _a < 40 °C) X EC Type Examination Certificate: IBExU03ATEX1016 X] | 140 092 ²⁾ |

¹⁾ To DIN 28 400 and following numbers²⁾ with the exception of acetylene and carbon bisulphide

For all enquiries and orders relating to category 1 and 2 ATEX products please exclusively use our ATEX questionnaire. You can find this questionnaire at the end of the full-line catalog together with the fax forms or on the Internet under "www.leybold.com" under Download Documents in the area Documentation.

TRIVAC BCS, Two-Stage Rotary Vane Vacuum Pumps



TRIVAC System

The TRIVAC BCS pumps are oil sealed vacuum pumps operating according to the rotary vane principle. Oil which is injected into the pump chamber is used for sealing, lubrication and cooling purposes.

The pump body is assembled from individual parts without sealing components. The parts are pinned in order to ensure easy disassembly and reassembly of the parts.

The motor is connected to the pumping section via an elastic coupling.

In addition, the TRIVAC BCS is ready for system integration (adaptable to different applications).

Advantages to the User

- Compact design
- Low noise operation with hardly any vibrations
- Built-in oil pump
- Continuous operation even at 1000 mbar (750 Torr)
- Pressure-lubricated sliding bearings

- Anti-suckback valve controlled via the oil pressure, no backstreaming of oil, independent of the operating mode, with or without gas ballast
- Low backstreaming of oil within the pump
- High pumping speed down to ultimate pressure
- Either vertical or horizontal intake and exhaust ports
- All controls as well as the oil sight glass are located on the face side
- Low power consumption
- Produces very little heat
- Exchangeable inner section
- Main flow oil filters may be fitted
- Very long service life
- Modular system
- Service-friendly
- Built-in temperature switch for temperature monitoring
- Corrosion protected – the use of yellow metals has been avoided; only grey cast iron, surface treated aluminium, steel and stainless steel is used
- Double shaft seal

Typical Applications

- In all areas of vacuum engineering
- Pumping of corrosive or aggressive media
- Production of semiconductors and in the area of chemistry
- Research and production
- Generation of rough and medium vacuum
- Backing pump in pump sets, i.e. in connection with Roots, diffusion, turbo or cryopumps

Supplied Equipment

- Small flanges
- Centering, sealing and clamping rings
- The intake port includes a dirt trap

BCS pumps are supplied with a filling of standard oil LEYBONOL LVO 100.

All pumps are subjected to a vacuum test before delivery!

TRIVAC SYSTEM

The TRIVAC BCS and its accessories

- CFS, chemical filter with safety isolation valve
- ARS, exhaust filter with lubricant return
- IGS, inert gas system
- LSS, limit switch system

make up the TRIVAC SYSTEM.

TRIVAC BCS-PFPE

In many applications the use of synthetic lubricants like perfluoropolyether (PFPE) offers superior characteristics compared to mineral oils.

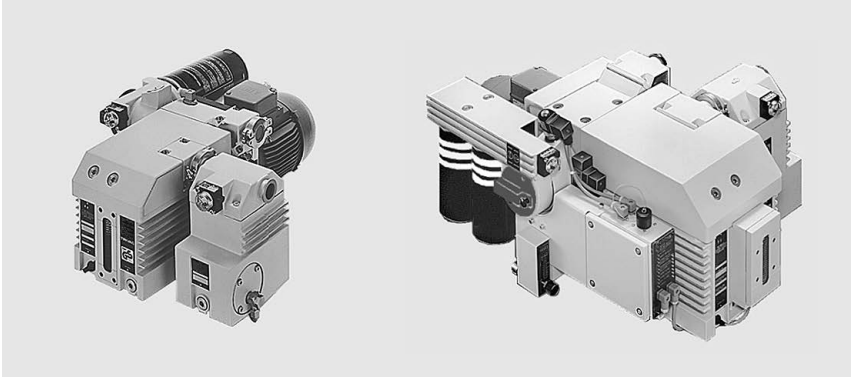
Advantages of perfluoropolyether (PFPE) LEYBONOL LVO 400:

- Practically inert against all chemical and oxidizing influences
- No polymerization under the influence of high energy radiation
- In part significantly increased oil change intervals
- Thermally highly stable. Thermal decomposition will only occur at temperatures over 290 °C (554 °F)

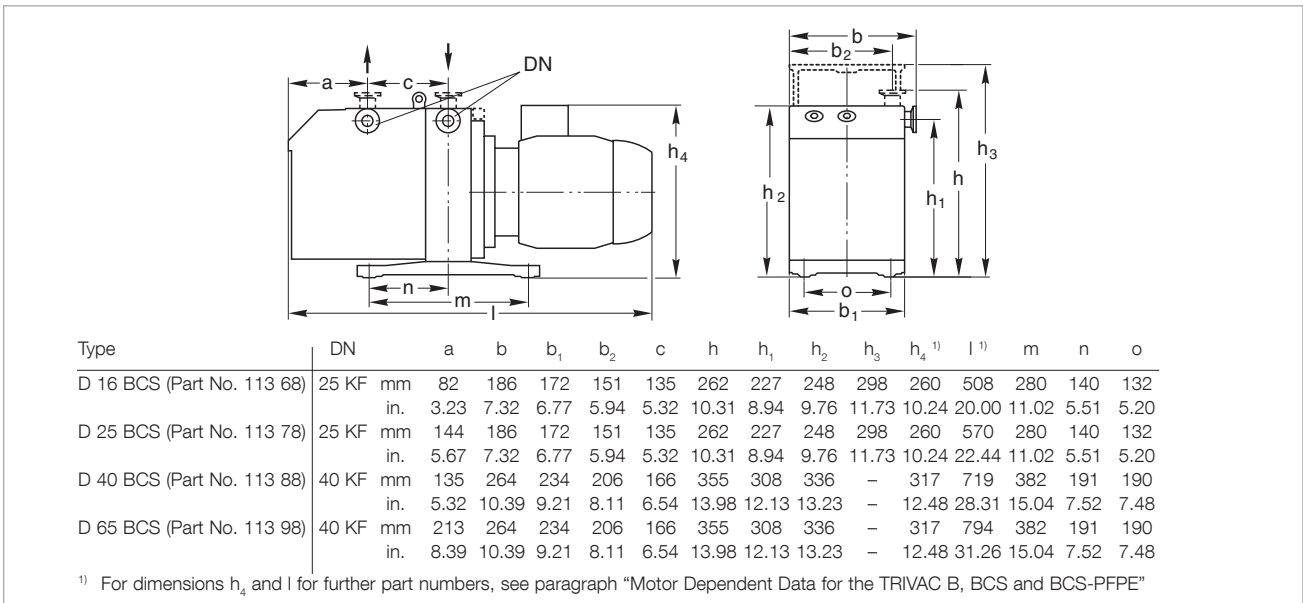
BCS-PFPE pumps have been especially prepared for operation with LEYBONOL LVO 400 and are supplied **without** the oil filling.

We recommend using our operating fluid LEYBONOL LVO 400 and always to install a chemical oil filter CF or CFS.

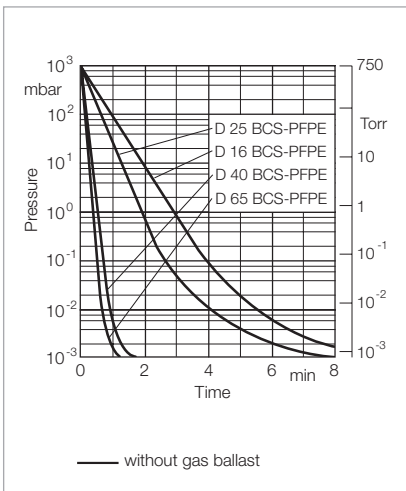
TRIVAC D 16 BCS to D 65 BCS



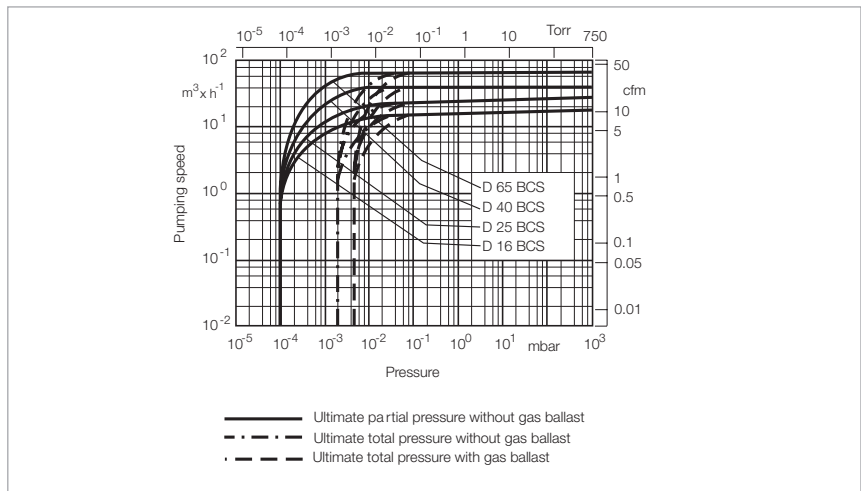
TRIVAC D 25 BCS with ARS and CFS (left)
and TRIVAC D 65 BCS with CFS, ARS, IGS, LSS, EIS – TRIVAC SYSTEM (right)



Dimensional drawing for the TRIVAC D 16 to D 65 BCS



Pump-down characteristics of a 100 l vessel at 50 Hz



Pumping speed characteristics at 50 Hz (60 Hz curves at the end of the chapter)

Technical Data

TRIVAC
D 16 BCS
two-stageD 25 BCS
two-stage

| | | 50 Hz | 60 Hz | 50 Hz | 60 Hz |
|--|-------------------------|---|---|---|---|
| Nominal pumping speed ¹⁾ | m ³ /h (cfm) | 18.9 (11.1) | 22.7 (13.4) | 29.5 (17.4) | 35.4 (20.9) |
| Pumping speed ¹⁾ | m ³ /h (cfm) | 16.5 (9.7) | 19.8 (11.7) | 25.7 (15.1) | 30.8 (18.2) |
| Ultimate partial pressure without gas ballast ¹⁾ | mbar (Torr) | 10 ⁻⁴ (0.75 x 10 ⁻⁴) | 10 ⁻⁴ (0.75 x 10 ⁻⁴) | 10 ⁻⁴ (0.75 x 10 ⁻⁴) | 10 ⁻⁴ (0.75 x 10 ⁻⁴) |
| Ultimate total pressure without gas ballast ¹⁾ | mbar (Torr) | < 2.5 x 10 ⁻³ (< 1.9 x 10 ⁻³) | < 2.5 x 10 ⁻³ (< 1.9 x 10 ⁻³) | < 2.5 x 10 ⁻³ (< 1.9 x 10 ⁻³) | < 2.5 x 10 ⁻³ (< 1.9 x 10 ⁻³) |
| Ultimate total pressure with gas ballast ¹⁾ | mbar (Torr) | < 5 x 10 ⁻³ (< 3.8 x 10 ⁻³) | < 5 x 10 ⁻³ (< 3.8 x 10 ⁻³) | < 5 x 10 ⁻³ (< 3.8 x 10 ⁻³) | < 5 x 10 ⁻³ (< 3.8 x 10 ⁻³) |
| Water vapor tolerance ¹⁾ | mbar (Torr) | 25 (18.8) | 25 (18.8) | 25 (18.8) | 25 (18.8) |
| Water vapor capacity | g/h (lbs/h) | 305 (0.672) | 370 (0.816) | 480 (1.058) | 570 (1.257) |
| Oil filling, min. / max. | l (qt) | 0.45 / 1.0 (0.5/1.1) | 0.45 / 1.0 (0.5/1.1) | 0.6 / 1.4 (0.6/1.5) | 0.6 / 1.4 (0.6/1.5) |
| Noise level ²⁾ to DIN 45 635, without / with gas ballast | dB(A) | 54 / 56 | 54 / 56 | 54 / 56 | 54 / 56 |
| Admissible ambient temperature | °C (°F) | +12 to +40 (+54 to +104) | +12 to +40 (+54 to +104) | +12 to +40 (+54 to +104) | +12 to +40 (+54 to +104) |
| Motor rating ²⁾ | W (HP) | 750 (1) | 750 (1) | 750 (1) | 750 (1) |
| Nominal speed ²⁾ | rpm | 1500 | 1800 | 1500 | 1800 |
| Type of protection | IP | 3) | 3) | 3) | 3) |
| Weight ²⁾ | kg (lbs) | 31.5 (69.3) | 31.5 (69.3) | 35.8 (78.8) | 35.8 (78.8) |
| Connections, Intake and Exhaust | DN | 25 KF | 25 KF | 25 KF | 25 KF |

¹⁾ To DIN 28 400 and following numbers

²⁾ Motor rating and noise levels for the pumps with AC motor 50 Hz.

Any data that deviate from the above for pumps with other motors, and other motor-dependent data are given in chapter "Products", paragraph "Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE"

³⁾ See paragraph "Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE"

Technical Data

TRIVAC

D 40 BCS two-stage

D 65 BCS two-stage

| | | 50 Hz | 60 Hz | 50 Hz | 60 Hz |
|---|-------------------------|---|---|---|---|
| Nominal pumping speed ¹⁾ | m ³ /h (cfm) | 46 (27) | 55 (32.5) | 75 (44) | 90 (53) |
| Pumping speed ¹⁾ | m ³ /h (cfm) | 40 (24) | 48 (28) | 65 (38) | 78 (46) |
| Ultimate partial pressure without gas ballast ¹⁾ | mbar (Torr) | 10 ⁻⁴ (0.75 x 10 ⁻⁴) | 10 ⁻⁴ (0.75 x 10 ⁻⁴) | 10 ⁻⁴ (0.75 x 10 ⁻⁴) | 10 ⁻⁴ (0.75 x 10 ⁻⁴) |
| Ultimate total pressure without gas ballast ¹⁾ | mbar (Torr) | < 2 x 10 ⁻³ (< 1.5 x 10 ⁻³) | < 2 x 10 ⁻³ (< 1.5 x 10 ⁻³) | < 2 x 10 ⁻³ (< 1.5 x 10 ⁻³) | < 2 x 10 ⁻³ (< 1.5 x 10 ⁻³) |
| Ultimate total pressure with gas ballast ¹⁾ | mbar (Torr) | < 5 x 10 ⁻³ (< 3.8 x 10 ⁻³) | < 5 x 10 ⁻³ (< 3.8 x 10 ⁻³) | < 5 x 10 ⁻³ (< 3.8 x 10 ⁻³) | < 5 x 10 ⁻³ (< 3.8 x 10 ⁻³) |
| Water vapor tolerance ¹⁾ | mbar (Torr) | 40 (30) | 40 (30) | 40 (30) | 40 (30) |
| Water vapor capacity | g/h (lbs/h) | 1185 (2.612) | 1420 (3.131) | 1925 (4.244) | 2310 (5.093) |
| Oil filling, min. / max. | l (qt) | 1.7 / 2.6 (1.8/2.7) | 1.7 / 2.6 (1.8/2.7) | 2.0 / 3.3 (2.1/3.5) | 2.0 / 3.3 (2.1/3.5) |
| Noise level ²⁾ to DIN 45 635, without / with gas ballast | dB(A) | 57 / 59 | 57 / 59 | 57 / 59 | 57 / 59 |
| Admissible ambient temperature | °C (°F) | +12 to +40 (+54 to +104) | +12 to +40 (+54 to +104) | +12 to +40 (+54 to +104) | +12 to +40 (+54 to +104) |
| Motor rating ²⁾ | W (HP) | 2200 (3) | 2200 (3) | 2200 (3) | 2200 (3) |
| Nominal speed ²⁾ | rpm | 1500 | 1800 | 1500 | 1800 |
| Type of protection | IP | 3) | 3) | 3) | 3) |
| Weight ²⁾ | kg (lbs) | 72.5 (160) | 72.5 (160) | 81.7 (180) | 81.7 (180) |
| Connections, Intake and Exhaust | DN | 40 KF | 40 KF | 40 KF | 40 KF |

¹⁾ To DIN 28 400 and following numbers

²⁾ Motor rating and noise levels for the pumps with AC motor 50 Hz.

Any data that deviate from the above for pumps with other motors, and other motor-dependent data are given in chapter "Products", paragraph "Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE"

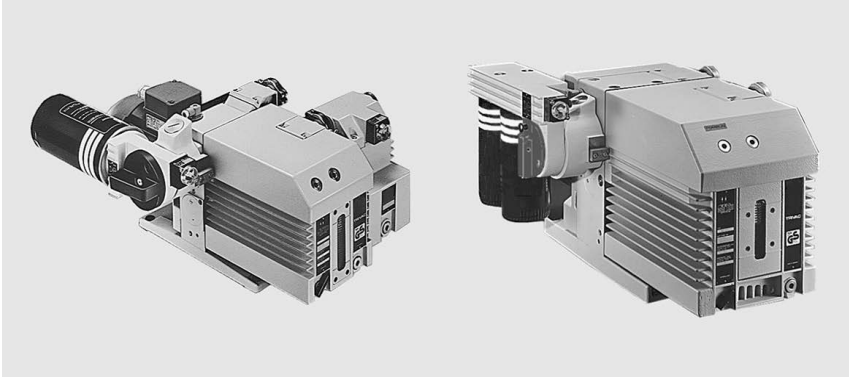
³⁾ See paragraph "Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE"

Ordering Information

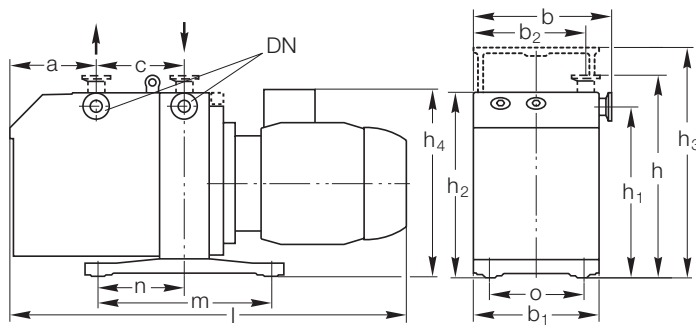
TRIVAC

| | D 16 BCS two-stage | D 25 BCS two-stage | D 40 BCS two-stage | D 65 BCS two-stage |
|---|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| | Part No. | Part No. | Part No. | Part No. |
| TRIVAC BCS with 3-phase motor 200-240 V (200 V IE2) / 380-400 V (380-400 V IE 2), 50 Hz / 200-240 (208-240 V EPact) / 380-480 V (416-480 V EPact), 60 Hz | 113 68 | 113 78 | 113 88 | 113 98 |
| Accessories | | | | |
| Roots pump adaptor | - | - | 168 30 | 168 30 |
| Exhaust filter with lubricant return | | | | |
| ARS 16-25 | 189 56 | 189 56 | - | - |
| ARS 40-65 | - | - | 189 57 | 189 57 |
| Condensate separator | | | | |
| AK 16-25 | 188 11 | 188 11 | - | - |
| AK 40-65 | - | - | 188 16 | 188 16 |
| Chemical filter with safety blocking valve | | | | |
| CFS 16-25 | 101 76 | 101 76 | - | - |
| CFS 40-65 | - | - | 101 77 | 101 77 |
| Inert gas system | | | | |
| IGS 16-25 | 161 76 | 161 76 | - | - |
| IGS 40-65 | - | - | 161 68V | 161 68V |
| Limit switch system | | | | |
| LSS 16-25 | 161 06 | 161 06 | - | - |
| LSS 40-65 | - | - | 161 07 | 161 07 |
| Spare Parts | | | | |
| Inner body | 200 39 762 | 200 39 764 | 200 39 758 | 200 39 760 |
| Major maintenance kit for LVO 100 (without oil) | EK110002646 | EK110002647 | EK110002641 | EK110002642 |
| Minor maintenance kit for LVO 100 (without oil) | EK110002649 | EK 110002648 | - | - |
| Shaft sealing replacement kit | EK110002650 | EK110002650 | EK110002643 | EK110002643 |
| Small parts kit | - | - | EK110002651 | EK110002651 |
| Seal kit | 197 31 | 197 31 | 197 32 | 197 32 |
| For further accessories see section "Accessories for TRIVAC E, B and BCS" | | | | |

TRIVAC D 16 BCS-PFPE to D 65 BCS-PFPE



TRIVAC D 25 BCS-PFPE with CFS 16-25 and ARS 16-25 (left) and
TRIVAC D 65 BCS-PFPE with CFS 40-65 (right)



| Type | DN | a | b | b ₁ | b ₂ | c | h | h ₁ | h ₂ | h ₃ | h ₄ | l | m | n | o | |
|---------------------------------|-------|-----|------|----------------|----------------|------|------|----------------|----------------|----------------|----------------|-------|-------|-------|------|------|
| D 16 BCS-PFPE (Part No. 113 69) | 25 KF | mm | 82 | 190 | 175 | 150 | 135 | 263 | 226 | 250 | 298 | 260 | 508 | 280 | 140 | 132 |
| | | in. | 3.23 | 7.48 | 6.89 | 5.91 | 5.32 | 10.35 | 8.90 | 9.84 | 11.73 | 10.24 | 20.00 | 11.02 | 5.51 | 5.20 |
| D 25 BCS-PFPE (Part No. 113 79) | 25 KF | mm | 142 | 190 | 175 | 150 | 135 | 263 | 226 | 250 | 298 | 260 | 570 | 280 | 140 | 132 |
| | | in. | 5.59 | 7.48 | 6.89 | 5.91 | 5.32 | 10.35 | 8.90 | 9.84 | 11.73 | 10.24 | 22.44 | 11.02 | 5.51 | 5.20 |
| D 40 BCS-PFPE (Part No. 113 89) | 40 KF | mm | 135 | 264 | 234 | 206 | 166 | 355 | 308 | 336 | - | 317 | 719 | 382 | 191 | 190 |
| | | in. | 5.32 | 10.39 | 9.21 | 8.11 | 6.54 | 13.98 | 12.13 | 13.23 | - | 12.48 | 28.31 | 15.04 | 7.52 | 7.48 |
| D 65 BCS-PFPE (Part No. 113 99) | 40 KF | mm | 213 | 264 | 234 | 206 | 166 | 355 | 308 | 336 | - | 317 | 794 | 382 | 191 | 190 |
| | | in. | 8.39 | 10.39 | 9.21 | 8.11 | 6.54 | 13.98 | 12.13 | 13.23 | - | 12.28 | 31.26 | 15.04 | 7.52 | 7.48 |

¹⁾ For dimensions h₄ and l for further part numbers, see paragraph "Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE"

Dimensional drawing for the TRIVAC D 16 to D 65 BCS-PFPE

Technical Data

TRIVAC

D 16 BCS-PFPE two-stage

D 25 BCS-PFPE two-stage

| | | 50 Hz | 60 Hz | 50 Hz | 60 Hz |
|---|-------------------------|--|--|--|--|
| Nominal pumping speed ¹⁾ | m ³ /h (cfm) | 18.9 (11.1) | 22.7 (13.4) | 29.5 (17.4) | 35.4 (20.9) |
| Pumping speed ¹⁾ | m ³ /h (cfm) | 16.5 (9.7) | 19.8 (11.7) | 25.7 (15.1) | 30.8 (18.2) |
| Ultimate partial pressure without gas ballast ¹⁾ | mbar (Torr) | < 8 x 10 ⁻⁴ (< 6 x 10 ⁻⁴) | < 8 x 10 ⁻⁴ (< 6 x 10 ⁻⁴) | < 8 x 10 ⁻⁴ (< 6 x 10 ⁻⁴) | < 8 x 10 ⁻⁴ (< 6 x 10 ⁻⁴) |
| Ultimate total pressure with gas ballast ¹⁾ | mbar (Torr) | < 5 x 10 ⁻³ (< 3.8 x 10 ⁻³) | < 5 x 10 ⁻³ (< 3.8 x 10 ⁻³) | < 5 x 10 ⁻³ (< 3.8 x 10 ⁻³) | < 5 x 10 ⁻³ (< 3.8 x 10 ⁻³) |
| Ultimate total pressure with reduced gas ballast, 200 l x h ⁻¹ ¹⁾ | mbar (Torr) | < 2 x 10 ⁻³ (< 1.5 x 10 ⁻³) | < 2 x 10 ⁻³ (< 1.5 x 10 ⁻³) | < 2 x 10 ⁻³ (< 1.5 x 10 ⁻³) | < 2 x 10 ⁻³ (< 1.5 x 10 ⁻³) |
| Lubricant filling | | | | | |
| min. / max. upon delivery | l (qt) | 0.45 / 1.0 (0.5 / 1.1) | 0.45 / 1.0 (0.5 / 1.1) | 0.6 / 1.4 (0.6 / 1.5) | 0.6 / 1.4 (0.6 / 1.5) |
| | l (qt) | 0.2 (0.2) | 0.2 (0.2) | 0.4 (0.4) | 0.4 (0.4) |
| Noise level ²⁾ to DIN 45 635, without / with gas ballast | dB(A) | 54 / 56 | 54 / 56 | 54 / 56 | 54 / 56 |
| Admissible ambient temperature | °C (°F) | +12 to +40 (+54 to +104) | +12 to +40 (+54 to +104) | +12 to +40 (+54 to +104) | +12 to +40 (+54 to +104) |
| Motor rating ²⁾ | W (HP) | 750 (1) | 750 (1) | 750 (1) | 750 (1) |
| Nominal speed ²⁾ | rpm | 1500 | 1800 | 1500 | 1800 |
| Type of protection | IP | ³⁾ | ³⁾ | ³⁾ | ³⁾ |
| Weight ²⁾ | kg (lbs) | 30.8 (67.8) ⁴⁾ | 30.8 (67.8) ⁴⁾ | 35.3 (77.7) ⁴⁾ | 35.3 (77.7) ⁴⁾ |
| Connections, Intake and Exhaust | DN | 25 KF | 25 KF | 25 KF | 25 KF |

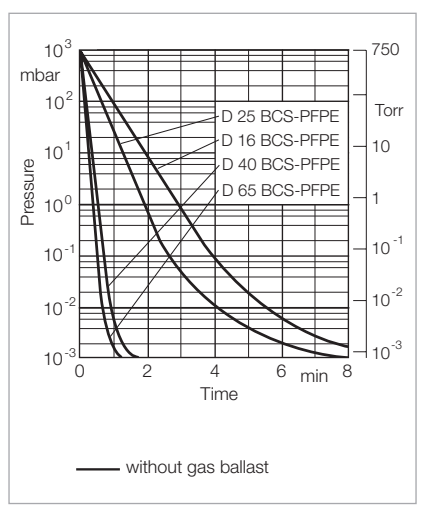
¹⁾ To DIN 28 400 and following numbers

²⁾ Motor rating and noise levels for the pumps with AC motor 50 Hz.

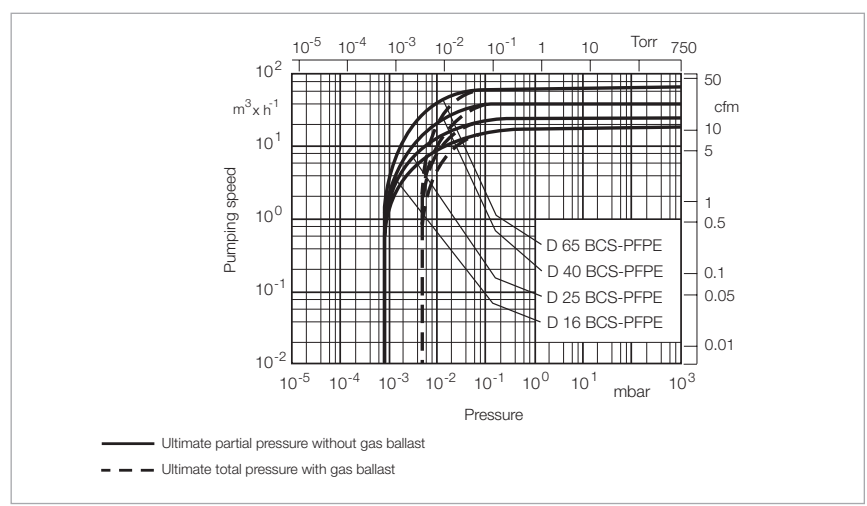
Any data that deviate from the above for pumps with other motors, and other motor-dependent data are given in chapter "Products", paragraph "Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE"

³⁾ See paragraph "Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE"

⁴⁾ Upon delivery



Pump-down characteristics of a 100 l vessel at 50 Hz



Pumping speed characteristics at 50 Hz (60 Hz curves at the end of the chapter)

Technical Data

TRIVAC

D 40 BCS-PFPE two-stage

D 65 BCS-PFPE two-stage

| | | 50 Hz | 60 Hz | 50 Hz | 60 Hz |
|--|-------------------------|--|--|--|--|
| Nominal pumping speed ¹⁾ | m ³ /h (cfm) | 46 (27) | 55 (32.5) | 75 (44) | 90 (53) |
| Pumping speed ¹⁾ | m ³ /h (cfm) | 40 (24) | 48 (28) | 65 (38) | 78 (46) |
| Ultimate partial pressure without gas ballast ¹⁾ | mbar (Torr) | < 8 x 10 ⁻⁴ (< 6 x 10 ⁻⁴) | < 8 x 10 ⁻⁴ (< 6 x 10 ⁻⁴) | < 8 x 10 ⁻⁴ (< 6 x 10 ⁻⁴) | < 8 x 10 ⁻⁴ (< 6 x 10 ⁻⁴) |
| Ultimate total pressure with gas ballast ¹⁾ | mbar (Torr) | < 5 x 10 ⁻³ (< 3.8 x 10 ⁻³) | < 5 x 10 ⁻³ (< 3.8 x 10 ⁻³) | < 5 x 10 ⁻³ (< 3.8 x 10 ⁻³) | < 5 x 10 ⁻³ (< 3.8 x 10 ⁻³) |
| Lubricant filling | | | | | |
| min. / max. | l (qt) | 1.7 / 2.6 (1.8 / 2.7) | 1.7 / 2.6 (1.8 / 2.7) | 2.0 / 3.3 (2.1 / 3.5) | 2.0 / 3.3 (2.1 / 3.5) |
| upon delivery | l (qt) | 0.6 (0.6) | 0.6 (0.6) | 0.75 (0.8) | 0.75 (0.8) |
| Noise level ²⁾ to DIN 45 635, without / with gas ballast | dB(A) | 57 / 59 | 57 / 59 | 57 / 59 | 57 / 59 |
| Admissible ambient temperature | °C (°F) | +12 to +40 (+54 to +104) | +12 to +40 (+54 to +104) | +12 to +40 (+54 to +104) | +12 to +40 (+54 to +104) |
| Motor rating ²⁾ | W (HP) | 2200 (3) | 2200 (3) | 2200 (3) | 2200 (3) |
| Nominal speed ²⁾ | rpm | 1500 | 1800 | 1500 | 1800 |
| Type of protection | IP | ³⁾ | ³⁾ | ³⁾ | ³⁾ |
| Weight ²⁾ | kg (lbs) | 71.3 (157) ⁴⁾ | 71.3 (157) ⁴⁾ | 80.2 (176) ⁴⁾ | 80.2 (176) ⁴⁾ |
| Connections, Intake and Exhaust | DN | 40 KF | 40 KF | 40 KF | 40 KF |

¹⁾ To DIN 28 400 and following numbers

²⁾ Motor rating and noise levels for the pumps with AC motor 50 Hz.

Any data that deviate from the above for pumps with other motors, and other motor-dependent data are given in chapter "Products", paragraph "Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE"

³⁾ See paragraph "Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE"

⁴⁾ Upon delivery

Ordering Information

TRIVAC

| | D 16 BCS-PFPE two-stage | D 25 BCS-PFPE two-stage | D 40 BCS-PFPE two-stage | D 65 BCS-PFPE two-stage |
|--|----------------------------|----------------------------|----------------------------|----------------------------|
| | Part No. | Part No. | Part No. | Part No. |
| TRIVAC BCS-PFPE with 3-phase motor 200-240 V (200 V IE2) / 380-400 V (380-400 V IE 2), 50 Hz / 200-240 (208-240 V EPact) / 380-480 V (416-480 V EPact), 60 Hz | 113 69 | 113 79 | 113 89 | 113 99 |
| Accessories | | | | |
| Roots pump adaptor | - | - | 168 30 | 168 30 |
| Exhaust filter with lubricant return ARS 16-25 | 189 56 | 189 56 | - | - |
| ARS 40-65 | - | - | 189 57 | 189 57 |
| Condensate trap AK 16-25 | 188 11 | 188 11 | - | - |
| AK 40-65 | - | - | 188 16 | 188 16 |
| Chemical filter with safety isolation valve CFS 16-25 | 101 76 | 101 76 | - | - |
| CFS 40-65 | - | - | 101 77 | 101 77 |
| Inert gas system IGS 16-25 | 161 76 | 161 76 | - | - |
| IGS 40-65 | - | - | 161 68V | 161 68V |
| Limit switch system LSS 16-25 | 161 06 | 161 06 | - | - |
| LSS 40-65 | - | - | 161 07 | 161 07 |
| Spare Parts | | | | |
| Major maintenance kit, LVO 400 (without oil) | EK110002644 | EK110002645 | EK110002637 | EK110002638 |
| Shaft sealing replacement kit | EK110002650 | EK110002650 | EK110002643 | EK110002643 |
| Small parts kit | - | - | EK110002651 | EK110002651 |
| Seal kit | 197 41 | 197 41 | 197 42 | 197 42 |
| For further accessories see section "Accessories for TRIVAC E, B and BCS" | | | | |





Only available for purchase in North and South America

Ordering Information






TRIVAC




| | D 16 BCS-PFPE two-stage | D 25 BCS-PFPE two-stage |
|---|----------------------------|----------------------------|
| | Part No. | Part No. |
| TRIVAC BCS-PFPE with 1-phase motor 220-230 V, 50/60 Hz, NEMA plug | - | 913 79-2 |

Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE

| Pump type | | D 4 / 8 B | D 4 / 8 B | D 4 / 8 B | D 4 / 8 B |
|---|---|---|---|--|---|
| Part No. of the pump | | 140 081, 140 082 | 112 45, 112 55 | 112 46, 112 56 112 5631, 140 246 | 140 140, 140 150 |
| Motor part number | | 100002292 | 6507733 | 6508538 | 20010406 |
| Size | | 80 | 71 | 71 | 71L |
| Protection class | | IP 54 | IP 55 | IP 55 | IP 55 |
| Operating mode in acc. w. IEC 34 / NEMA | | S1 | S1 | S1 | S1 |
| Insulation class | | F | F | F | F |
| Phases | | 1~ | 1~ | 3~ | 3~ |
| Efficiency class | | - | - | - | - |
| Number of poles | | 4 | 4 | 4 | 4 |
| Nominal output power at 50 Hz at 60 Hz | | 570 W 660 W | 370 W - | 370 W 440 W | 370 W - |
| Nominal input frequency | | 50 Hz / 60 Hz | 50 Hz | 50 Hz / 60 Hz | 50 Hz |
| Nominal voltage range and nominal current (Mains voltage tolerance $\pm 10\%$) at 50 Hz | | 100-115 V / 7.7 A - 210-230 V / 4.0 A - | 230 V / 3.0 A - - | 200-240 V / 2.15 A - 380-400 V / 1.07 A - | 230 V / 1.84 A - 400 V / 1.06 A - |
| at 60 Hz | | 100-115 V / 5.6 A - 210-230 V / 2.8 A - | - - - | 200-240 V / 2.15 A - 380-480 V / 1.07 A - | - - - - |
| Nominal speed 50 Hz 60 Hz | rpm rpm | 1420 1690 | 1410 - | 1430 1735 | 1390 - |
| Maximum operating altitude above sea level | | 1000 m above sea level | 1000 m above sea level | 1000 m above sea level | 1000 m above sea level |
| Max. ambient temperature during operation | $^{\circ}\text{C}$ ($^{\circ}\text{F}$) | 40 (104) | 40 (104) | 40 (104) | 40 (104) |
| Terminal board / plug | | Multi-pin plug at junction box, mains cord 20081091 (1.8 m) with Schuko plug CEE 7/7 (Included in delivery), mains cord 20081097 (1.8 m) with UK plug BS 1363 (optional), mains cord 20081099 (1.8 m) with CH plug SEV 1011 (optional), mains cord 20081141 (1.8 m) with US plug NEMA 6-15P (optional), mains cord 20081090 (1.8 m) with US plug NEMA 5-15P (100-120 V) (optional) | mains cord (2 m) with Schuko plug CEE | 9 pins | 6 pins |
| Certifications | |  |  |  |  |
| Shaft dimension $\varnothing d / l$ | mm (in.) | 14 / 30 (0.55 / 1.18) | 14 / 30 (0.55 / 1.18) | 14 / 30 (0.55 / 1.18) | 14 / 30 (0.55 / 1.18) |
| Size of flange A/B | mm (in.) | 140 / 95 (5.51 / 3.74) | 140 / 95 (5.51 / 3.74) | 140 / 95 (5.51 / 3.74) | 140 / 95 (5.51 / 3.74) |
| Length of the pump | mm (in.) | 480 (18.90) (D 4 B) 504 (19.84) (D 8 B) | 442 (18.11) (D 4 B) 467 (19.06) (D 8 B) | 458 (18.62) (D 4 B) 483 (19.57) (D 8 B) | 467 (18.39) (D 4 B) 491 (19.33) (D 8 B) |
| Height up to top edge of junction box h_4 | mm (in.) | 254 (10.0) | 258 (10.16) | 247 (9.72) | 241 (9.49) |




Only available for purchase in North and South America

| Pump type | | D 4 B | D 8 B | D 8 B |
|---|---|---|--|--|
| Part No. of the pump | | 898 973 | 170 028, 898 852 912 55-1, 912 55-2 | 898 974 |
| Motor part number | | 72260195 | 72260117 | 72260196 |
| Size | | 56C | 56C | 56C |
| Protection class | | TEFC | P 43 | TEFC |
| Operating mode in acc. w. IEC 34 / NEMA | | continuous | continuous | continuous |
| Insulation class | | B | B | B |
| Phases | | 1~ | 1~ | 1~ |
| Efficiency class | | - | - | - |
| Number of poles | | 4 | 4 | 4 |
| Nominal output power at 50 Hz at 60 Hz | | 180 W 240 W | 550 W 550 W | 240 W 370 W |
| Nominal input frequency | | 50 Hz / 60 Hz | 50 Hz / 60 Hz | 50 Hz / 60 Hz |
| Nominal voltage range and nominal current (Mains voltage tolerance $\pm 10\%$) at 50 Hz | | 110 V / 6.8 A - 220 V / 3.4 A - | 115 V / 13.0 A - 208-230 V / 5.5-6.5 A - | 110 V / 9.6 A - 220 V / 4.8 A - |
| at 60 Hz | | 115 V / 6.0 A - 208-230 V / 3.1 A - | 115 V / 9.4 A - 208-230 V / 4.8-4.7 A - | 115 V / 8.8 A - 208-230 V / 4.5 A - |
| Nominal speed 50 Hz 60 Hz | rpm rpm | 1425 1725 | 1425 1725 | 1425 1725 |
| Maximum operating altitude above sea level | | 1000 m above sea level | 1000 m above sea level | 1000 m above sea level |
| Max. ambient temperature during operation | $^{\circ}\text{C}$ ($^{\circ}\text{F}$) | 40 (104) | 40 (104) | 40 (104) |
| Terminal board / plug | | 12 pin plug at the motor, mains cord (1.8 m) 721 27 874 with US plug NEMA 5-15P (115 V) (optional) | mains cord (1.8 m) with US plug NEMA 5-15P (115 V), 898 853 and 912 55-2 with mains cord (1.8 m) and US plug NEMA 6-15P (230 V) | 12 pin plug at the motor, mains cord (1.8 m) 721 27 874 with US plug NEMA 5-15P (115 V) (optional) |
| Certifications | | |   |   RoHS  |
| Shaft dimension $\varnothing d / l$ | mm (in.) | 15.87 / 52.32 (0.625 / 2.06) | 15.87 / 52.32 (0.625 / 2.06) | 15.87 / 52.32 (0.625 / 2.06) |
| Size of flange A/B | mm (in.) | 114.3 (4.5) | 114.3 (4.5) | 114.3 (4.5) |
| Length of the pump | mm (in.) | 464 (18.27) (D 4 B) | 502 (19.78) (D 8 B) | 488 (19.21) (D 8 B) |
| Height up to top edge of junction box h_4 | mm (in.) | 252 (9.92) | 252 (9.92) | 287 (11.30) |


| | | | | |
|--|------------|---|--|---|
| Pump type | | D 16 / 25 B D 16 / 25 BCS D 16 / 25 BCS-PFPE D 16 / 25 B-DOT | D 16 / 25 B (3i/3o) | D 16 B-Ex |
| Part No. of the pump | | 112 66, 112 76, 113 33 914 63-1 112 68, 112 78 112 69, 112 79 114 06, 114 10, 112 76 18 | 140 160, 140 170 | 140 091, 140 092 |
| Motor part number | | E6506939 | 20010409 | 100002330 |
| Size | | 80 | 80L | 80L |
| Protection class | | IP 55 | IP 55 | IP 55 |
| Operating mode in acc. w. IEC 34 / NEMA | | S1 | S1 | S1 |
| Insulation class | | F | F | F |
| Phases | | 3~ | 3~ | 3~ |
| Efficiency class | | IE2 EPAct | - - | - - |
| Number of poles | | 4 | 4 | 4 |
| Nominal output power at 50 Hz at 60 Hz | | 750 W 750 W | 750 W - | 750 W - |
| Nominal input frequency | | 50 Hz / 60 Hz | - | - |
| Nominal voltage range and nominal current (Mains voltage tolerance $\pm 10\%$) at 50 Hz | | 200-240 V / 3.6 A 200 V / 3.6 A (IE2) 380-400 V / 1.8 A 380-400 V / 1.8 A (IE2) | 230 V / 3.35 A - 400 V / 1.94 A - | 230 V / 3.4 A - 400 V / 1.95 A - |
| at 60 Hz | | 200-240 V / 3.4 A 208-240 V / 3.2 A (EPAct) 380-480 V / 1.7 A 416-480 V / 1.6 A (EPAct) | - - - - | - - - - |
| Nominal speed 50 Hz 60 Hz | rpm rpm | 1430 1740 | 1380 - | 1405 - |
| Maximum operating altitude above sea level | | 1000 m above sea level | 1000 m above sea level | 1000 m above sea level |
| Maximum ambient temperature during operation | °C (°F) | 40 (104) | 40 (104) | 40 (104) |
| Terminal board | | 9 pins | 6 pins | 6 pins |
| Certifications | |  |  |  |
| Shaft dimension $\varnothing d / l$ | mm (in.) | 19 / 40 (0.75 / 1.58) | 19 / 40 (0.75 / 1.58) | 19 / 40 (0.75 / 1.58) |
| Size of flange A/B | mm (in.) | 160 / 110 (6.30 / 4.33) | 160 / 110 (6.30 / 4.33) | 160 / 110 (6.30 / 4.33) |
| Length of the pump | mm (in.) | 508 (20.00) (D 16 B) 570 (22.44) (D 25 B) | 510 (20.08) (D 16 B) 572 (22.52) (D 25 B) | 510 (20.08) (D 16 B) - |
| Height up to top edge of junction box h_4 | mm (in.) | 260 (10.24) | 268 (10.55) | 268 (10.55) |





| | | | | |
|--|---|--|---|---|
| Pump type | | D 16 / 25 B | D 16 / 25 B | D 16 B |
| Part No. of the pump | | 112 65, 112 75 | 113 25, 113 35 | 898 698 |
| Motor part number | | E38066003 | E110001212 | 72260187 |
| Size | | 90 | 90 | 56C |
| Protection class | | IP 44 | IP 54 | IP44 |
| Operating mode in acc. w. IEC 34 / NEMA | | S1 | H | continuous |
| Insulation class | | F | F | F |
| Phases | | 1~ | 1~ | 1~ |
| Efficiency class | | - | - | - |
| Number of poles | | 4 | 4 | 4 |
| Nominal output power at 50 Hz at 60 Hz | | 750 W 750 W | 750 W 750 W | 750 W 750 W |
| Nominal input frequency | | 50 Hz / 60 Hz | 50 Hz / 60 Hz | 50 Hz / 60 Hz |
| Nominal voltage range and nominal current (Mains voltage tolerance $\pm 10\%$) at 50 Hz ¹⁾ | | 230 V / 5.6 A - - - | 230 V / 5.7 A - - - | 110 V / 15.0 A - 220 V / 7.5 A - |
| at 60 Hz ¹⁾ | | 230 V / 5.7 A - - - | 230 V / 4.9 A - - - | 115 V / 12.4 A - 208-230 V / 6.3-6.2 A - |
| Nominal speed 50 Hz 60 Hz | rpm rpm | 1460 1750 | 1420 1680 | 1500 1800 |
| Maximum operating altitude above sea level | | 1000 m above sea level | 1000 m above sea level | 1000 m above sea level |
| Maximum ambient temperature during operation | $^{\circ}\text{C}$ ($^{\circ}\text{F}$) | 40 (104) | 40 (104) | 40 (104) |
| Terminal board | | mains cord (2 m) with Schuko plug CEE | Multi-pin plug at junction box, mains cord 20081091 (1.8 m) with Schuko plug CEE 7/7 (Included in delivery), mains cord 20081097 (1.8 m) with UK plug BS 1363 (optional), mains cord 20081099 (1.8 m) with CH plug SEV 1011 (optional), mains cord 20081141 (1.8 m) with US plug NEMA 6-15P (230 V) (optional) | Multi-pin plug at junction box, mains cord (1.8 m) E72127877 with US plug NEMA 5-15P (115 V), mains cord (1.8 m) E72127878 with US plug NEMA 6-15P (230 V) |
| Certifications | | CE | CE | CE SP RU |
| Shaft dimension $\varnothing d / l$ | mm (in.) | 19 / 40 (0.75 / 1.58) | 19 / 40 (0.75 / 1.58) | 15.87 / 53.32 (0.625 / 2.06) |
| Size of flange A/B | mm (in.) | 160 / 110 (6.30 / 4.33) | 160 / 110 (6.30 / 4.33) | 114.3 (4.5) |
| Length of the pump | mm (in.) | 521 (20.51) (D 16 B) 583 (22.95) (D 25 B) | 505 (19.88) (D 16 B) 567 (22.32) (D 25 B) | 582 (22.91) (D 16 B) - |
| Height up to top edge of junction box h_4 | mm (in.) | 278 (10.95) | 279 (10.98) | 263 (10.35) |

Only available for purchase in North and South America

| | | | |
|--|----------|---|---|
| Pump type | | D 16 B | D 16 B |
| Part No. of the pump | | 898 208, 912 65-1 | 912 65-2 |
| Motor part number | | 72260117 | 72260005 |
| Size | | 56C | 56C |
| Protection class | | IP 43 | TEFC |
| Operating mode in acc. w. IEC 34 / NEMA | | continuous | continuous |
| Insulation class | | F | B3 |
| Phases | | 1~ | 1~ |
| Efficiency class | | - | - |
| Number of poles | | 4 | 4 |
| Nominal output power | | | |
| at 50 Hz | | 560 | 550 W |
| at 60 Hz | | 560 | 550 W |
| Nominal input frequency | | 50 Hz / 60 Hz | 50 Hz / 60 Hz |
| Nominal voltage range and nominal current (Mains voltage tolerance $\pm 10\%$) | | | |
| at 50 Hz ¹⁾ | | 115 V / 13.0 A - 208-230 V / 5.5-6.5 A - | 208-230 V / 5.5-6.5 A - - - |
| at 60 Hz ¹⁾ | | 115 V / 9.4 A - 208-230 V / 4.8-7.4 A - | 208-230 V / 4.8-4.7 A - - - |
| Nominal speed | | | |
| 50 Hz | rpm | 1425 | 1500 |
| 60 Hz | rpm | 1725 | 1800 |
| Maximum operating altitude above sea level | | 1000 m above sea level | 1000 m above sea level |
| Maximum ambient temperature during operation | °C (°F) | 40 (104) | 40 (104) |
| Terminal board | | mains cord (1.8 m) with US plug NEMA 5-15P (115 V) | mains cord (1.8 m) with plug NEMA 6-15P (230 V) |
| Certifications | |   |  |
| Shaft dimension $\varnothing d / l$ | mm (in.) | 15.87 / 53.32 (0.625 / 2.06) | 15.87 / 53.32 (0.625 / 2.06) |
| Size of flange A/B | mm (in.) | 114.3 (4.5) | 114.3 (4.5) |
| Length of the pump | mm (in.) | 624 (24.57) (D 16 B) | 538 (21.18) (D 16 B) |
| Height up to top edge of junction box h_4 | mm (in.) | 265 (10.43) | 247 (9.72) |

Only available for purchase in North and South America

| Pump type | D 25 B | | D 25 B - PFPE | |
|---|---|--|---|--|
| Part No. of the pump | 912 75-2, 913 79-2 | | 170 119 | |
| Motor part number | 72260022 | | 190260213 | |
| Size | - | | 56C | |
| Protection class | IP 44 | | TEFC | |
| Operating mode in acc. w. IEC 34 / NEMA | continuous | | continuous | |
| Insulation class | F | | F | |
| Phases | 1~ | | 1~ | |
| Efficiency class | - | | - | |
| Number of poles | 4 | | 4 | |
| Nominal output power at 50 Hz at 60 Hz | 1100 1100 | | - 1100 | |
| Nominal input frequency | 50 Hz / 60 Hz | | 60 Hz | |
| Nominal voltage range and nominal current (Mains voltage tolerance $\pm 10\%$) at 50 Hz | 220-230 V / 9.6-9.2 A - - | | - - - | |
| at 60 Hz | 220-230 V / 9.6-8.0 A - - - | | 115 V / 18.0 A - 208-230 V / 8.4-8.0 A - | |
| Nominal speed 50 Hz rpm 60 Hz rpm | 1425 1725 | | - 1725 | |
| Maximum operating altitude above sea level | 1000 m above sea level | | 1000 m above sea level | |
| Maximum ambient temperature during operation °C (°F) | 40 (104) | | 40 (104) | |
| Terminal board | mains cord (1.8 m) with plug NEMA 6-15P (230 V) | | 9 wires | |
| Certifications |  | | | |
| Shaft dimension $\varnothing d / l$ mm (in.) | 15.87 / 53.32 (0.625 / 2.06) | | 15.87 / 53.32 (0.625 / 2.06) | |
| Size of flange A/B mm (in.) | 114.3 (4.5) | | 114.3 (4.5) | |
| Length of the pump mm (in.) | 639 (25.16) (D 25 B) | | 644 (25.35) (D 25 B) | |
| Height up to top edge of junction box h_4 mm (in.) | 265 (10.43) | | 263 (10.35) | |

| | | | |
|---|----------|--|--|
| Pump type | | D 40 / 65 B D 40 / 65 BCS D 40 / 65 BCS-PFPE D 40 B-DOT + D 65 B ³He | D 40 / 65 B-Ex |
| Part No. of the pump | | 112 86, 112 96 113 88, 113 98 113 89, 113 99 112 86 12 / 112 96 46 | 140 180, 140 190 |
| Motor part number | | E6506961 | 20010411 |
| Size | | 100L | 100L |
| Protection class | | IP 55 | IP 55 |
| Operating mode in acc. w. IEC 34 / NEMA | | S1 | S1 |
| Insulation class | | F | F |
| Phases | | 3~ | 3~ |
| Efficiency class | | IE2 EPAct | - - |
| Number of poles | | 4 | 4 |
| Nominal output power at 50 Hz at 60 Hz | | 2200 W 2200 W | 2600 W - |
| Nominal input frequency | | 50 Hz / 60 Hz | 50 Hz |
| Nominal voltage range and nominal current (Mains voltage tolerance ± 10 %) at 50 Hz | | 200-240 V / 15.0 A 200 V / 10.4 A (IE2) 380-400 V / 5.2 A 380-400 V / 5.2 A (IE2) | 219-242 V / 10.1 A - 380-420 V / 5.8 A - |
| at 60 Hz | | 200-240 V / 12.0 A 208-240 V / 9.2 A (EPAct) 380-480 V / 5.2 A 416-480 V / 4.6 A (EPAct) | - - - - |
| Nominal speed 50 Hz rpm 60 Hz rpm | | 1430 1735 | 1420 - |
| Maximum operating altitude above sea level | | 1000 m above sea level | 1000 m above sea level |
| Maximum ambient temperature during operation | °C (°F) | 40 (104) | 40 (104) |
| Terminal board | | 9 pins | 6 pins |
| Certifications | |  RoHS  |   II 2 G Ex e II T3 |
| Shaft dimension $\varnothing d / l$ | mm (in.) | 28 / 60 (1.10 / 2.36) | 28 / 60 (1.10 / 2.36) |
| Size of flange A/B | mm (in.) | 160 / 110 (6.30 / 4.33) | 160 / 110 (6.30 / 4.33) |
| Length of the pump | mm (in.) | 719 (28.31) (D 40 B) 794 (31.26) (D 65 B) | 719 (28.31) (D 40 B) 794 (31.26) (D 65 B) |
| Height up to top edge of junction box h_4 | mm (in.) | 317 (12.48) | 328 (12.91) |

Accessories

For TRIVAC E, B and BCS

Exhaust Filters AF 8 to AF 25 Condensate Traps AK 8 to AK 25



Exhaust filter (left) and condensate trap (right)

Exhaust-Filter

Oil mists and aerosols are retained in the exhaust filter.

Advantages to the User

- Filtering of the exhaust gas by removal of entrained lubricant particles
- Emptying via drain screw or exhaust filter drain tap
- Separation efficiency > 99%
- Filter elements (made of glass fiber) are exchangeable

Condensate Trap

Condensate traps prevent the formation of condensate in the pump as well as the backstreaming of fluids.

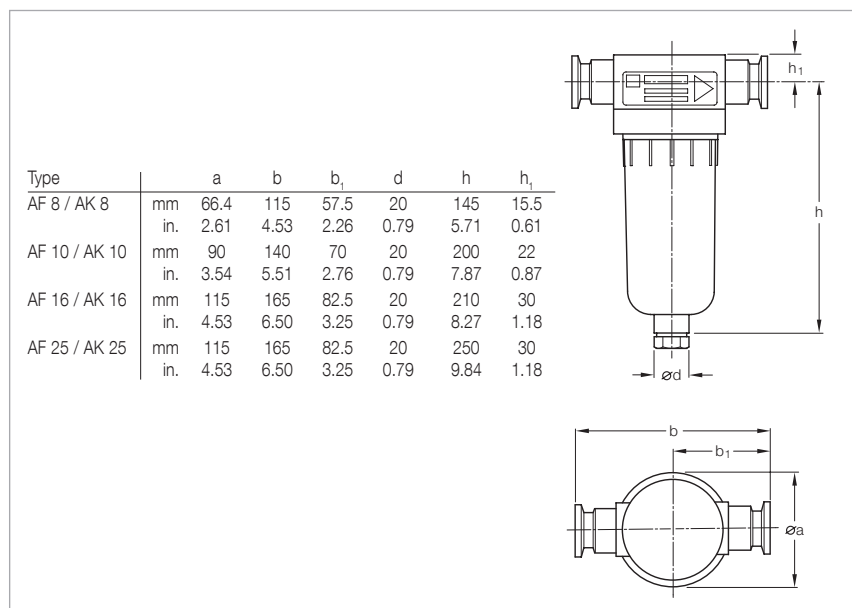
Advantages to the User

- Can be connected to either the intake or the exhaust side
- Protects against condensate forming from sucked in vapors or gases (intake line)
- Protects against backstreaming liquids (exhaust line)
- Emptying via drain screw/drain tap

Technical Information

The exhaust filter is not capable of retaining toxic and/or aggressive gases. For such applications we recommend the use of an exhaust gas line (e.g. a gas washer).

Since the material is not resistant to all gases and solvents, a materials compatibility chart is available upon request.



Dimensional drawing for the AF exhaust filter and AK condensate trap

Technical Data**AF 8 AK 8 AF 10 AK 10 AF 16 AK 16 AF 25 AK 25**

| | | | | | | | | | |
|---|----------------------------|---------------------------|---------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| Connection to pump (required accessories for TRIVAC E: elbow) | TRIVAC | D 2,5 E D 4 B D 8 B | D 2,5 E D 4 B D 8 B | D 16 B | D 16 B | D 16 B | D 16 B | D 16 B D 25 B | D 16 B D 25 B |
| Connection flanges | DN | 16 KF | 16 KF | 25 KF | 25 KF | 25 KF | 25 KF | 25 KF | 25 KF |
| Max. filling level (for vertical installation) | ml | 60 | 60 | 145 | 145 | 285 | 285 | 285 | 285 |
| Permissible leak rate | mbar x l x s ⁻¹ | ≤ 1 x 10 ⁻⁵ | ≤ 1 x 10 ⁻⁵ | ≤ 1 x 10 ⁻⁵ | ≤ 1 x 10 ⁻⁵ | ≤ 1 x 10 ⁻⁵ | ≤ 1 x 10 ⁻⁵ | ≤ 1 x 10 ⁻⁵ | ≤ 1 x 10 ⁻⁵ |
| Max. continuous temperature | °C (°F) | 90 (194) | 90 (194) | 90 (194) | 90 (194) | 90 (194) | 90 (194) | 90 (194) | 90 (194) |
| Material | | Polyamide 6 | Polyamide 6 | Polyamide 6 | Polyamide 6 | Polyamide 6 | Polyamide 6 | Polyamide 6 | Polyamide 6 |

Ordering Information**AF 8 AK 8 AF 10 AK 10 AF 16 AK 16 AF 25 AK 25**

| | Part No. | Part No. | Part No. | Part No. | Part No. | Part No. | Part No. | Part No. |
|--|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|
| Exhaust filter | 190 50 | - | 190 51 | - | 190 52 | - | 190 53 | - |
| Exhaust filter drain tap | 190 95 | 190 95 | 190 95 | 190 95 | 190 95 | 190 95 | 190 95 | 190 95 |
| Condensate trap | - | 190 60 | - | 190 61 | - | 190 62 | - | 190 63 |
| Replacement filter element (pack of 5) | | | | | | | | |
| FE 8 | ES 190 80 | - | - | - | - | - | - | - |
| FE 10 | - | - | ES 190 81 | - | - | - | - | - |
| FE 16 | - | - | - | - | ES 190 82 | - | - | - |
| FE 25 | - | - | - | - | - | - | ES 190 83 | - |
| Reducer DN 25/16 KF ¹⁾ | | | | | | | | |
| Aluminium (if necessary) | 183 86 | 183 86 | 183 86 | 183 86 | 183 86 | 183 86 | 183 86 | 183 86 |
| Elbow (1x) | | | | | | | | |
| Aluminium | 184 36 | 184 36 | 184 37 | 184 37 | 184 37 | 184 37 | 184 37 | 184 37 |
| Centering ring with O-ring (2x) | | | | | | | | |
| aluminium / NBR | 183 26 | 183 26 | 183 27 | 183 27 | 183 27 | 183 27 | 183 27 | 183 27 |
| stainless steel / FPM (FKM) | 883 46 | 883 46 | 883 47 | 883 47 | 883 47 | 883 47 | 883 47 | 883 47 |
| Clamping ring (2x) | 183 41 | 183 41 | 183 42 | 183 42 | 183 42 | 183 42 | 183 42 | 183 42 |

¹⁾ When using the reducer, an elbow is required

Exhaust Filters

AF 4-8 to AF 40-65

AF 16-25 DOT and AF 40-65 DOT

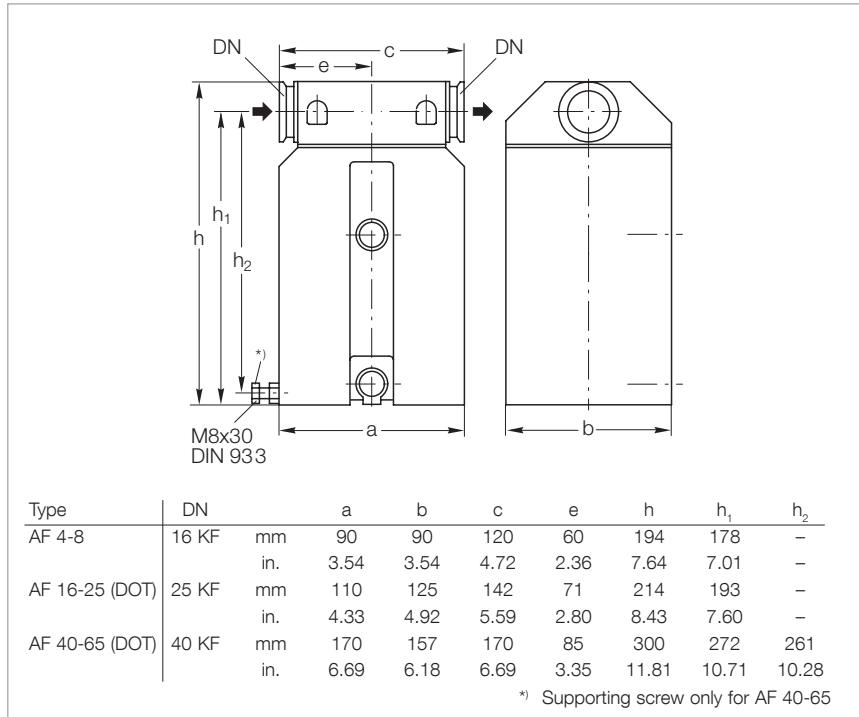


AF 4-8 exhaust filter

Exhaust filters retain oil mists and aerosols.

Advantages to the User

- Can be fitted without additional accessories
- Separation efficiency over 99 %
- Exchangeable filter inserts
- Built-in over-pressure relief valve (threshold at about 1.5 bar (7.2 psi, differential))
- Sight glass for checking of the quantity of collected oil
- Resistant against solvents
- Seals for
 - AF made of FPM (FKM)
 - AF-DOT made of EPDM
- Easy to clean and use
- Retains dirt and cracked products



Dimensional drawing for the AF exhaust filters

Typical Application

- Improvement of oil separating capacity

Technical Information

An exhaust line must be connected in case of hazardous exhaust gases.

Technical Data**AF 4-8****AF 16-25****AF 40-65**

| | | | | |
|---------------------------------------|----------|------------|---------------|---------------|
| Connection to pump | TRIVAC | D 4/8 B | D 16/25 B/BCS | D 40/65 B/BCS |
| Max. capacity for condensate, approx. | l (qt) | 0.4 (0.45) | 0.5 (0.57) | 1.0 (1.14) |
| Weight | kg (lbs) | 1.9 (4.1) | 3.2 (7.1) | 6.5 (14.3) |

Ordering Information**AF 4-8****AF 16-25****AF 40-65**

| | Part No. | Part No. | Part No. |
|---|---------------|---------------|---------------|
| Exhaust filter | 189 06 | 189 11 | 189 16 |
| Replacement filter element | | | |
| FE 4-8 | 189 71 | - | - |
| FE 16-25 | - | 189 72 | - |
| FE 40-65 | - | - | 189 73 |
| Oil drain tap M 16 x 1.5 (vacuum-tight) | 190 90 | 190 90 | 190 90 |

Technical Data**AF 16-25 DOT****AF 40-65 DOT**

| | | | | |
|--------------------|--------|---|---------------|------------|
| Connection to pump | TRIVAC | - | D 16/25 B-DOT | D 40 B-DOT |
|--------------------|--------|---|---------------|------------|

Ordering Information**AF 16-25 DOT****AF 40-65 DOT**

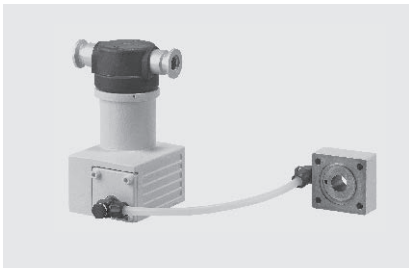
| | Part No. | Part No. | Part No. |
|----------------------------|----------|-------------------|---------------------------------|
| Exhaust filter DOT | - | 124 16 | 101 15 |
| Replacement filter element | | 200 10 304 | - |
| FE 16-25 DOT | - | - | 200 39 840 ¹⁾ |
| FE 40-65 DOT | | | |

¹⁾ 2 pieces are required

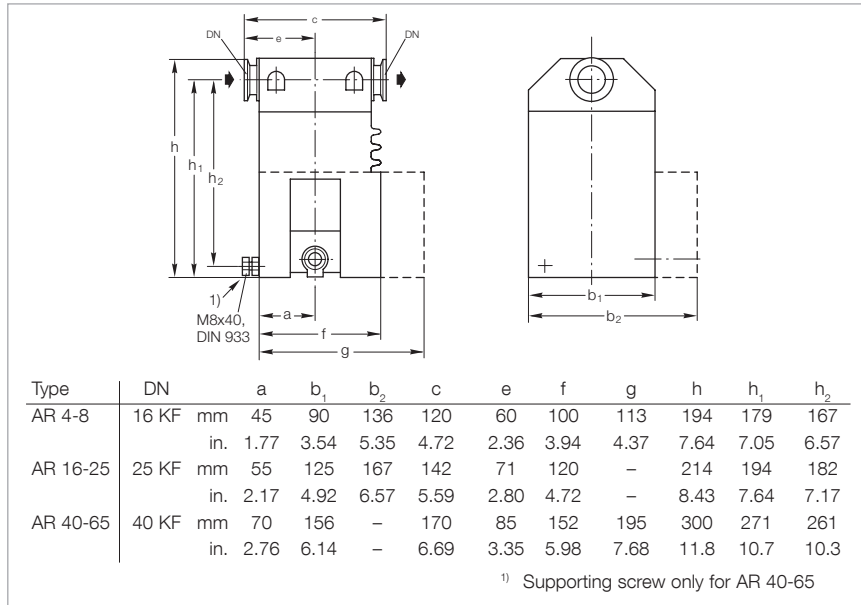
Exhaust Filters with Lubricant Return ARP 4-8 and AR 4-8 to AR 40-65



AR 4-8 exhaust filter with lubricant return



ARP 4-8 exhaust filter with lubricant return



Dimensional drawing for the AR exhaust filters with lubricant return
(dimensions for the ARP exhaust filter with lubricant return upon request)

This combination of an exhaust filter with a float-controlled valve considerably extends the maintenance intervals for the TRIVAC pumps.

Advantages to the User

- Filtering the exhaust air of entrained lubricant particles
- Lubricant return with the aid of a float-controlled valve back into the intake port
- No operating costs caused by lost lubricant
- Hardly any oil consumption
- Standard filter element
- Built-in over-pressure relief valve
- Resists solvents
- All seals made of FPM (FKM)
- Easy change of the return port for horizontal or vertical connection

Typical Application

- Extending the maintenance intervals

Supplied Equipment

Intermediate flange, connecting lines with hollow screws, required gaskets as well as mounting screws for the intake flange.

Technical Data

ARP 4-8 AR 4-8 AR 16-25 AR 40-65

| Connection to pump | TRIVAC | D 4/8 B | D 4/8 B | D 16/25 B/BCS | D 40/65 B/BCS |
|--|----------------------|-----------|------------|---------------|---------------|
| For opening the float-controlled valve required amount of oil | | | | | |
| LEYBONOL LVO 100 | cm ³ (qt) | - | 430 (0.45) | 510 (0.54) | 760 (0.80) |
| LEYBONOL LVO 400 | cm ³ (qt) | - | 350 (0.37) | 430 (0.45) | 700 (0.74) |
| Remaining amount of oil | | | | | |
| LEYBONOL LVO 100 | cm ³ (qt) | - | 290 (0.31) | 340 (0.36) | 420 (0.44) |
| LEYBONOL LVO 400 | cm ³ (qt) | - | 250 (0.26) | 300 (0.32) | 390 (0.41) |
| Weight | kg (lbs) | 1.7 (3.8) | 3.1 (6.89) | 4.7 (10.4) | 8.5 (18.7) |

Ordering Information

ARP 4-8 AR 4-8 AR 16-25 AR 40-65

| | Part No. | Part No. | Part No. | Part No. |
|--------------------------------------|----------------|---------------|---------------|---------------|
| Exhaust filter with lubricant return | 140 065 | 189 20 | 189 21 | 189 22 |
| Replacement filter element | | | | |
| FE 8 | 190 80 | - | - | - |
| FE 4-8 | - | 189 71 | - | - |
| FE 16-25 | - | - | 189 72 | - |
| FE 40-65 | - | - | - | 189 73 |

Technical Information

The AR is connected to the exhaust port of the TRIVAC B, the return line is connected at the intermediate flange under the intake port. An exhaust line must be connected in case of hazardous exhaust gases.

The ARP and AR filters are factory cleaned to such an extent, that they may be operated either with mineral oil (e.g. LEYBONOL LVO 100) or perfluoropolyether (PFPE) (e.g. LEYBONOL LVO 400).

Exhaust Filters with Lubricant Return ARS 16-25 and ARS 40-65



ARS 40-65

This combination of an exhaust filter with a float-controlled valve considerably extends the maintenance intervals of the TRIVAC BCS.

The ARS is part of the TRIVAC SYSTEM.

Advantages to the User

- Lubricant return with the aid of a float-controlled valve back into the intake port
- The intake port may be easily exchanged (either vertical or horizontal orientation)
- No operating costs caused by lost lubricant
- Hardly any oil consumption
- Visual indication of the differential pressure
- Standard filter element
- All aluminium parts are surface protected
- Built-in over-pressure relief valve
- Resists solvents
- All seals made of FPM (FKM)

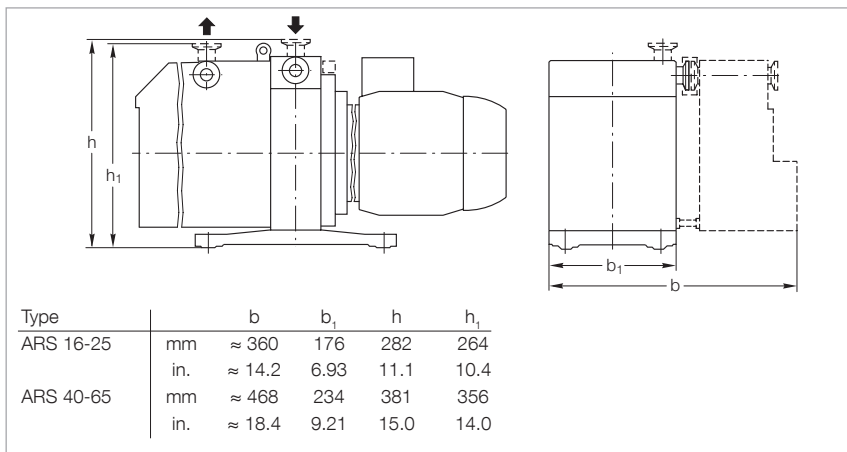
Typical Application

- Filtering the exhaust air of entrained lubricant particles

Supplied Equipment

Intermediate flange, connecting lines with hollow screws, required gaskets as well as mounting screws for the intake flange.

Wrapped in foil for shipping.



Dimensional drawing for the ARS mounted on a TRIVAC BCS

Technical Information

An exhaust line must be connected in case of hazardous exhaust gases. The ARS is connected to the exhaust port of the TRIVAC BCS, the return line is connected at the intermediate flange under the intake port.

The ARS is factory cleaned to such an extent, that it may be operated either with mineral oil (e.g. LEYBONOL LVO 100) or perfluoropolyether (PFPE) (e.g. LEYBONOL LVO 400).

Technical Data

ARS 16-25

ARS 40-65

| Connection to pump | TRIVAC | D 16/25 B D 16/25 BCS (-PFPE) | D 40/65 B D 40/65 BCS (-PFPE) |
|---|----------------------|----------------------------------|----------------------------------|
| Connection flanges | DN | 25 KF | 40 KF |
| Amount of oil required for opening the float-controlled valve | | | |
| LEYBONOL LVO 100 | cm ³ (qt) | 510 (0.54) | 760 (0.80) |
| LEYBONOL LVO 400 | cm ³ (qt) | 340 (0.36) | 420 (0.44) |
| Remaining amount of oil | | | |
| LEYBONOL LVO 100 | cm ³ (qt) | 430 (0.45) | 700 (0.74) |
| LEYBONOL LVO 400 | cm ³ (qt) | 300 (0.31) | 390 (0.41) |
| Weight with intermediate flange, tubing and filter, without lubricant | kg (lbs) | 4.7 (10.4) | 8.5 (16.7) |

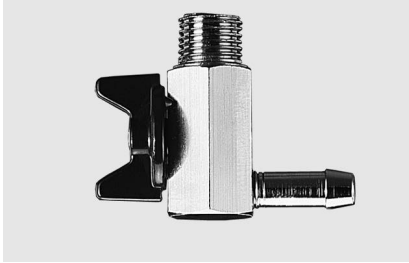
Ordering Information

ARS 16-25

ARS 40-65

| | Part No. | Part No. |
|--------------------------------------|---------------|---------------|
| Exhaust filter with lubricant return | 189 56 | 189 57 |
| Replacement filter element | | |
| FE 16-25 | 189 72 | - |
| FE 40-65 | - | 189 73 |

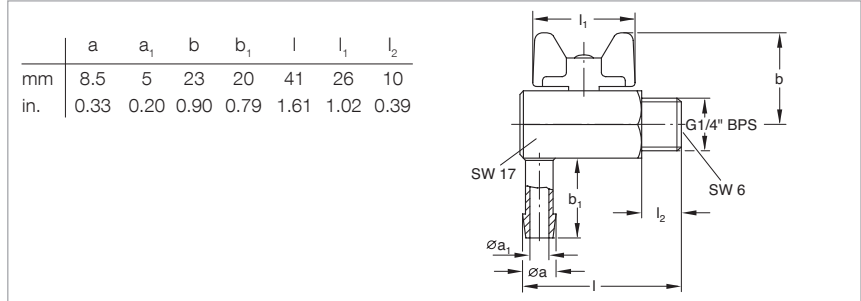
Exhaust Filter Drain Tap



The exhaust filter drain tap simplifies draining of the oil from the exhaust filter.

Technical Note

May also be used in connection with the condensate separator AK.



Dimensional drawing for the exhaust filter drain tap

Technical Data

| | | |
|-----------|----------------------------|--------------------|
| Leak rate | mbar x l x s ⁻¹ | ≤ 10 ⁻⁵ |
|-----------|----------------------------|--------------------|

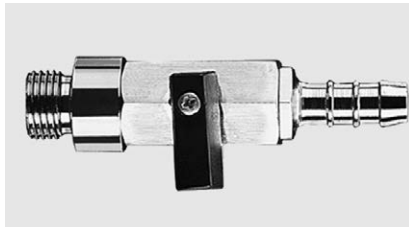
Exhaust Filter Drain Tap

Ordering Information

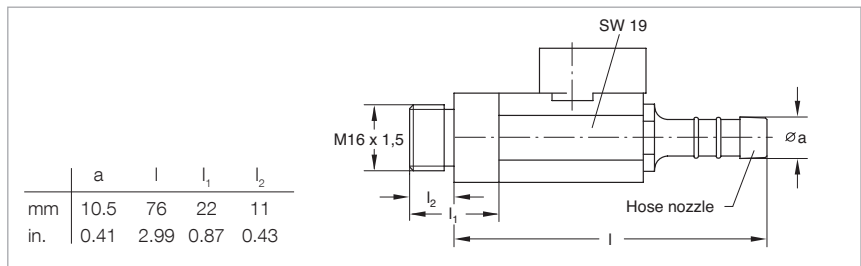
Exhaust Filter Drain Tap

| | Part No. |
|--------------------------|---------------|
| Exhaust filter drain tap | 190 95 |

Oil Drain Tap



This oil drain tap may be screwed into the oil drain when wanting to change the oil in the rotary vane pumps. It is also suited for the condensate separators and exhaust filters of the TRIVAC B series.



Dimensional drawing for the oil drain tap

Technical Data

| | | |
|-----------|----------------------------|--------------------|
| Leak rate | mbar x l x s ⁻¹ | ≤ 10 ⁻⁵ |
|-----------|----------------------------|--------------------|

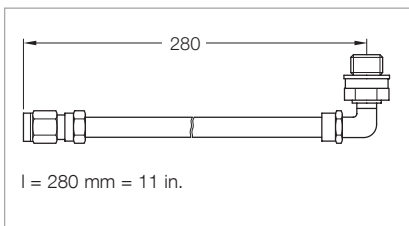
Oil Drain Tap

Ordering Information

Oil Drain Tap

| | Part No. |
|---------------|---------------|
| Oil drain tap | 190 90 |

Oil Drain Kit



Dimensional drawing for the oil drain kit

Technical Data

| | | |
|-----------|----------------------------|--------------------|
| Length | mm (in.) | 280 (11) |
| Leak rate | mbar x l x s ⁻¹ | ≤ 10 ⁻⁵ |

Oil Drain Kit

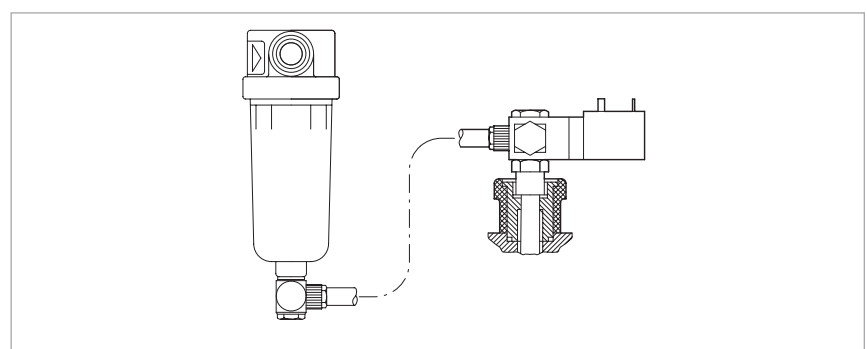
Ordering Information

Oil Drain Kit

| | Part No. |
|---------------|---------------|
| Oil drain kit | 190 94 |

Oil Suction Facility AR-V Controlled by Solenoid Valve

Suited for the AF 8 or AK 8 when connected to the D 2.5 E the oil suction facility AR-V with its solenoid valve allows the removal of oil via the gas ballast which has collected in the exhaust filter. When the valve is closed the gas ballast remains fully operational. For this, a hose link is provided between the exhaust filter and the gas ballast.



AR-V oil suction facility controlled by solenoid valve (kit without exhaust filter)

Technical Note

If oil which has collected in the exhaust filter is to be removed, the solenoid valve is opened briefly.

Technical Data

AR-V Oil Suction Facility Controlled by Solenoid Valve

| | | |
|-----------|----------------------------|--------------------|
| Leak rate | mbar x l x s ⁻¹ | ≤ 10 ⁻⁵ |
|-----------|----------------------------|--------------------|

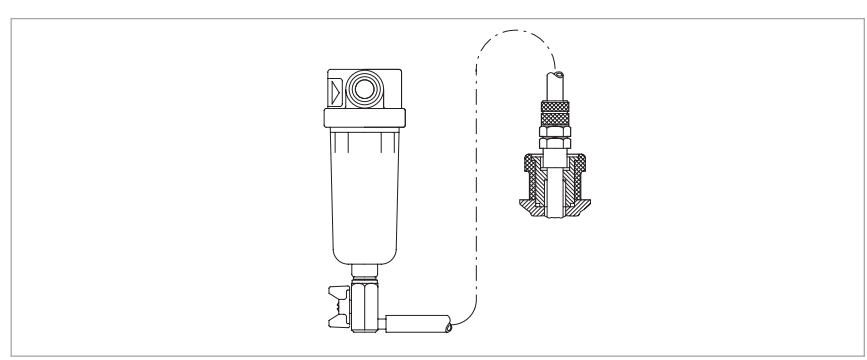
Ordering Information

AR-V Oil Suction Facility Controlled by Solenoid Valve

| | Part No. |
|--|---------------|
| AR-V oil suction facility controlled by solenoid valve 24 V DC, 4 W, normally closed | 190 92 |

Manually Operated Oil Suction Facility AR-M

Suited for the AF 8 or AK 8 when connected to the D 2,5 E the oil suction facility AR-M allows the removal of oil via the gas ballast which has collected in the exhaust filter, whereby the gas ballast remains fully operational as long as the angled ball valve remains closed. For this, a hose link is provided between the exhaust filter and the gas ballast.



AR-M manually operated oil suction facility (kit without exhaust filter)

Technical Note

If oil which has collected in the exhaust filter is to be removed, the angled ball valve is manually opened briefly.

Technical Data

AR-M Manually Operated Oil Suction Facility

| | | |
|-----------|----------------------------|--------------------|
| Leak rate | mbar x l x s ⁻¹ | ≤ 10 ⁻⁵ |
|-----------|----------------------------|--------------------|

Ordering Information

AR-M Manually Operated Oil Suction Facility

| | Part No. |
|---|---------------|
| AR-M manually operated oil suction facility | 190 93 |

Condensate Separators

AK 4-8 to AK 40-65

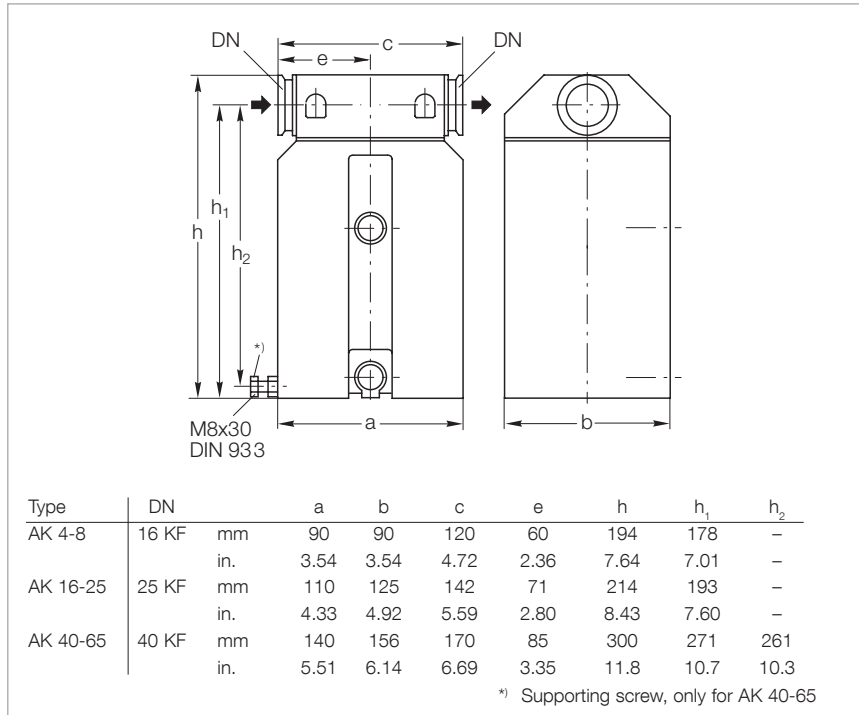


AK 4-8 condensate separator

Separators protect the pump against condensate.

Advantages to the User

- May be installed without accessories
- May be used either on the intake or the exhaust side
- Independent of the direction of flow
- Condensate level check via inspection glass
- Resists solvents
- All seals made of FPM (FKM)
- Simple to clean
- Easy to use
- Drained via drain screw or drain tap



Dimensional drawing for the AK condensate separators

Typical Application

- Prevention of the collection of liquids in the intake line

Technical Information

Depending upon the layout and pipe run of an exhaust line, it may be necessary to install a separator to prevent condensate draining back to the pump.

Technical Data

AK 4-8

AK 16-25

AK 40-65

| Connection to pump | TRIVAC | D 4/8 B | D 16/25 B D 16/25 BCS (-PFPE) | D 40/65 B D 40/65 BCS (-PFPE) |
|-------------------------|----------|------------|----------------------------------|----------------------------------|
| Capacity for condensate | l (qt) | 0.66 (0.7) | 1.2 (1.3) | 3.0 (3.2) |
| Weight | kg (lbs) | 1.7 (3.7) | 2.4 (5.3) | 5.5 (12.1) |

Ordering Information

AK 4-8

AK 16-25

AK 40-65

| | Part No. | Part No. | Part No. |
|---|---------------|---------------|---------------|
| Condensate separator | 188 06 | 188 11 | 188 16 |
| Oil drain tap M 16 x 1.5 (vacuum-tight) | 190 90 | 190 90 | 190 90 |
| Adaptor DN 16 KF – hose nozzle DN 7 | 182 90 | - | - |

Dust Filters DN 16 KF to DN 40 KF



Filter housing FH 16 to FH 40 for dust filter insert DF

Dust filters protect the pump against sucked in dust. They are suited for oil sealed and also for dry compressing pumps.

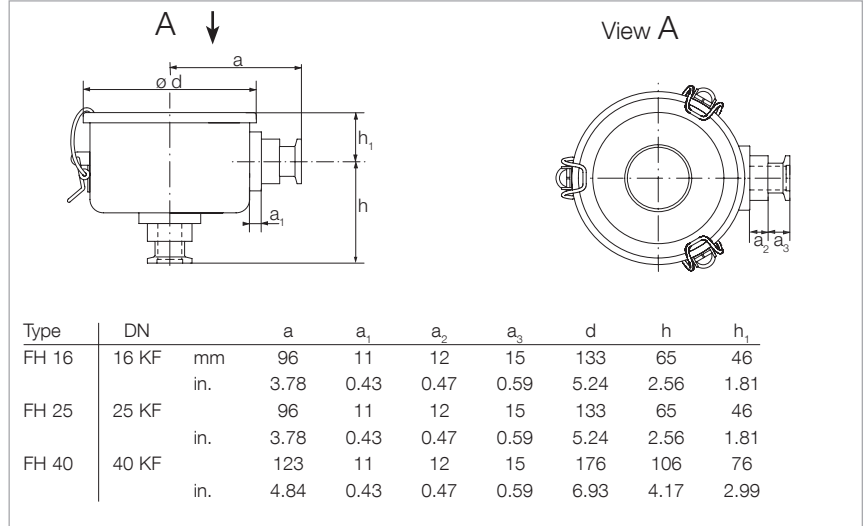
Advantages to the User

- Easy to disassemble
- Vacuum-tight steel housing
- Easily exchangeable replacement filter
- High filter capacity

Technical Information

Installing a dust filter in the intake line of the pump throttles its pumping speed at lower intake pressures much more than at higher intake pressures. Throttling reference values are stated in the Technical Data. These must be taken into account when dimensioning the vacuum system.

Since the collection capacity of dust filters is limited, we recommend the two-stage dust filters AS when larger quantities of dust are involved.



Dimensional drawing for the filter housings FH 16 to FH 40 for dust filter inserts DF

Technical Data

Dust Filter

| Use for | TRIVAC | DN 16 KF | DN 25 KF | DN 40 KF |
|---|----------|-----------|-----------|-----------|
| | | D 4/8 B | D 16/25 B | D 40/65 B |
| Share of filtered out particles > 5 µm | % | 98 | 98 | 98 |
| Throttling of pumping speed at 10 mbar (7.5 Torr) | % | 3 | 3 | 3 |
| | % | 6 | 6 | 6 |
| Weight with dust filter insert | kg (lbs) | 1.3 (2.9) | 1.3 (2.9) | 2.3 (5.1) |

Ordering Information

Dust Filter

| | DN 16 KF | DN 25 KF | DN 40 KF |
|---|-----------------|-----------------|-----------------|
| | Part No. | Part No. | Part No. |
| Dust filter filter housing FH ¹⁾ | 140 116T | 140 125T | 140 140T |
| dust filter insert DF 16-25 | 140 117S | 140 117S | - |
| DF 40-65 | - | - | 140 141S |

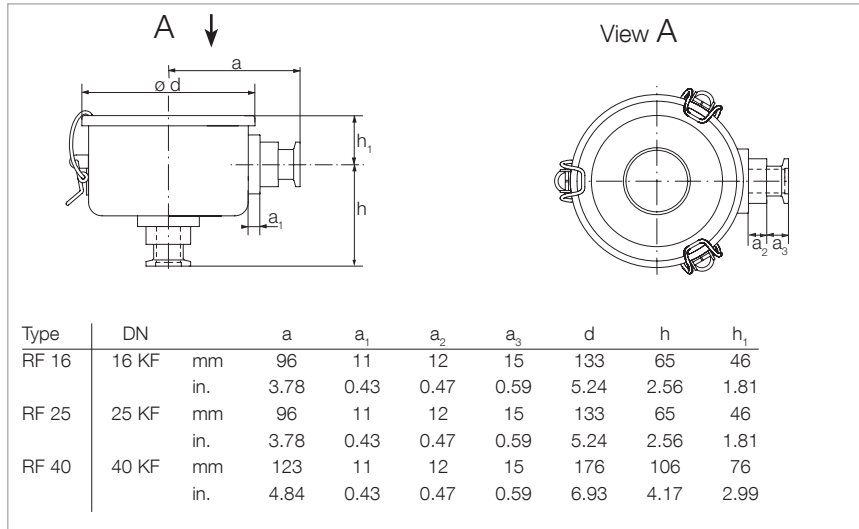
¹⁾ The filter housing is supplied without filter cartridge (dust filter insert) since it may also be used in connection with the adsorption trap or dust filter insert

Adsorption Traps DN 16 KF to DN 40 KF



Filter housing FH 16 to FH 40 for adsorption trap filter inserts RF

Adsorption traps are containers with a stainless steel insert which can be filled with a number of different adsorbents thereby offering a high adsorbing capacity for vapors, water vapor in particular.



Dimensional drawing for the filter housings FH 16 to FH 40 for adsorption trap filter inserts RF

Advantages to the User

- Vacuum-tight steel housing
- Stainless steel, degassable up to 300 °C (572 °F)
- Different adsorbents and separating elements can be used
- Quick to replace
- Easy to disassemble

Technical Information

The adsorption traps have been developed specially for use in connection with oil sealed pumps. They are capable of retaining oil vapors discharged from forevacuum pumps and are at the same time in the position to separate vapors (water vapor) coming from the side of the process. Through the use of adsorption traps and a suitable adsorbent, a vacuum free of hydrocarbons can be produced. The stainless steel inserts with the corresponding adsorbent can be heated in a drying cabinet at 300 °C (572 °F) for regeneration. Depending on the type of adsorbent and operating pressure, the pumping speed of the pumps is reduced.

As to any questions relating to the selection of a suitable adsorbent, please consult us.

Technical Data

Adsorption Trap

| Use for | TRIVAC | DN 16 KF | DN 25 KF | DN 40 KF |
|---|----------|-----------|-----------|-----------|
| | | D 4/8 B | D 16/25 B | D 40/65 B |
| Conductance | | | | |
| at 10 mbar (7.5 Torr) for | | | | |
| aluminium oxide | l/s | 2 | 6 | 14 |
| zeolite | l/s | 2 | 6 | 12 |
| active charcoal filling | l/s | 2 | 6 | 16 |
| baffle ring filling | l/s | 2 | 7 | 18 |
| at 1 mbar (0.75 Torr) for | | | | |
| aluminium oxide | l/s | 1 | 4 | 5 |
| zeolite | l/s | 1 | 6 | 5 |
| active charcoal filling | l/s | 2 | 6 | 6 |
| baffle ring filling | l/s | 2 | 6 | 16 |
| Filling quantity | | | | |
| aluminium oxide | kg (lbs) | 0.3 (0.7) | 0.3 (0.7) | 1.0 (2.2) |
| zeolite | kg (lbs) | 0.2 (0.4) | 0.2 (0.4) | 0.7 (1.5) |
| active charcoal filling | kg (lbs) | 0.1 (0.2) | 0.1 (0.2) | 0.5 (1.1) |
| baffle ring filling | kg (lbs) | 0.1 (0.2) | 0.1 (0.2) | 0.3 (0.7) |
| Filling volume | | | | |
| | l (qt) | 0.3 (0.3) | 0.3 (0.3) | 1.2 (1.3) |
| Weight with adsorption trap insert | | | | |
| | kg (lbs) | 1.3 (2.9) | 1.3 (2.9) | 2.3 (5.1) |

Ordering Information

Adsorption Trap

| | DN 16 KF | DN 25 KF | DN 40 KF |
|------------------------------------|-------------------|-------------------|-------------------|
| | Part No. | Part No. | Part No. |
| Adsorption trap | | | |
| filter housing FH ¹⁾ | 140 116T | 140 125T | 140 140T |
| adsorption trap filter insert | | | |
| RF 16-25 | 140 118A | 140 118A | - |
| RF 40-65 | - | - | 140 142A |
| Active charcoal, un-dried, 5 kg | 178 10 | 178 10 | 178 10 |
| Zeolite, 1 kg | 854 20 | 854 20 | 854 20 |
| Aluminium oxide, 1.2 kg | 854 10 | 854 10 | 854 10 |
| Baffle ring 15 x 15 x 0.3, 1 liter | | | |
| Stainless steel 1.4301 | 390 26 126 | 390 26 126 | 390 26 126 |

¹⁾ The filter housing is supplied without filter cartridge (dust filter insert) since it may also be used in connection with the adsorption trap or dust filter insert

Cold Trap TK 4-8



TK 4-8 cold trap

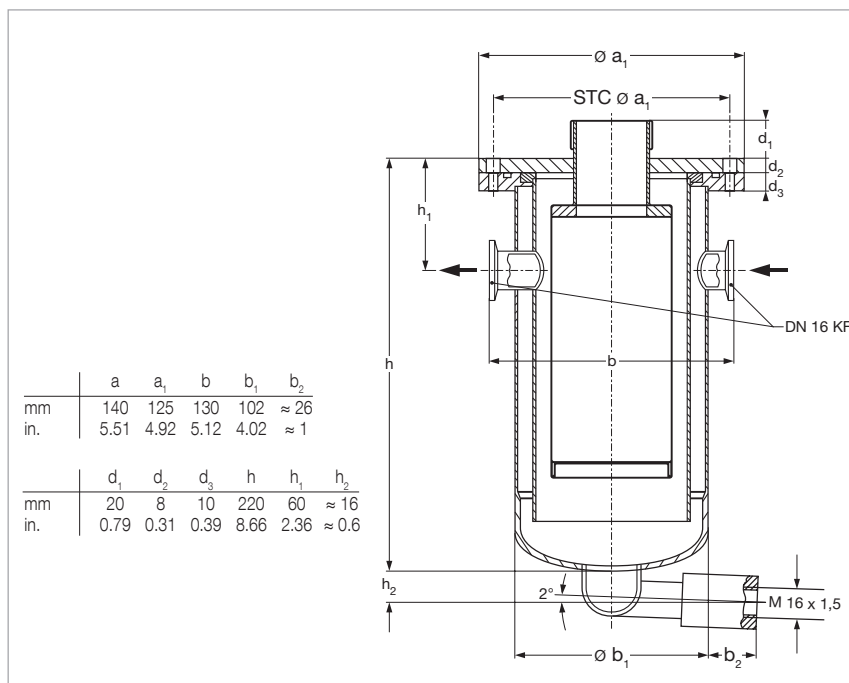
The cold trap protects the pump against damaging vapors.

Advantages to the User

- Rugged and implosion resistant
- May be fitted directly on the flange of the pump
- Safe draining of the condensate without problems
- Casing made of corrosion resistant stainless steel
- Simple filling with refrigerant (liquid nitrogen (LN₂) or a mixture of acetone and carbon di-oxide ice)

Typical Applications

- Prevention of oil from backstreaming into the vacuum system when operating at ultimate pressure
- Freezing of gases and vapors in the laboratory



Dimensional drawing for the TK 4-8 cold trap

Technical Data

TK 4-8

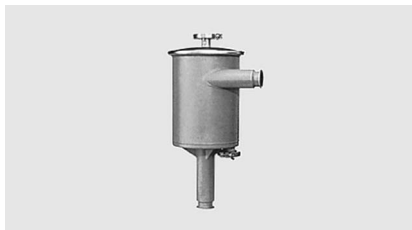
| | | |
|-----------------------------------|----------|-------------------|
| Connection to pump | TRIVAC | D 2,5 E / D 4/8 B |
| Capacity for refrigerant, approx. | l (qt) | 0.4 (0.42) |
| Connections | DN | 16 KF |
| Weight | kg (lbs) | 4 (8.8) |

Ordering Information

TK 4-8

| | Part No. |
|---|---------------|
| Cold trap | 188 20 |
| Drain tap for the intake side, vacuum-tight | 190 90 |
| Elbow (1x) | 184 36 |
| Centering ring aluminium/NBR (2x) | 183 26 |
| stainless steel/FPM (FKM) (2x) | 883 46 |
| Clamping ring (2x) | 183 41 |

Dust Separators AS 8-16 and AS 30-60 / Molecular Filters MF 8-16 and MF 30-60



AS 30-60 dust separator
(MF 30-60 molecular filter is similar)

Dust separators protect pumps against contamination and damage by sucked-in dust.

Advantages to the User

- Dust separators for large quantities of dust
- Two-stage, thus hardly any throttling
- Cyclone (for coarse dust) and wet filter (for fine dust)
- Dust separator and molecular filter have the same housing (for easy conversion)

Typical Application

- Separation of coarse and medium size dust starting at a grain size of 2 μm

Technical Information

Installing a dust filter in the intake line of the pump will throttle its pumping speed at low intake pressures more than at higher intake pressures. This must be taken into account when designing a vacuum system.

Even when large quantities of dust are deposited, the throttling effect will hardly increase.

Supplied Equipment

Blanked off drain port.

Molecular filters are used to separate vapors of a high molecular weight (i.e. monomers, vapors from resins).

Advantages to the User

- Molecular filter and dust separator have the same housing (for easy conversion)
- Separation of high-molecular weight vapors
- Protection of the pump's oil against damaging vapors

Technical Information

Installing a molecular filter in the intake line of the pump will throttle its pumping speed at low intake pressures more than at higher intake pressures. This must be taken into account when designing a vacuum system.

Supplied Equipment

Blanked off drain port.

Technical Data

AS 8-16

AS 30-60

MF 8-16

MF 30-60

| Connection to pump | TRIVAC | D 16 B | D 25 B | D 40 B | D 65 B | D 16 B/BCS | D 25 B/BCS | D 40 B/BCS | D 65 B/BCS |
|--|----------|------------|------------|-------------|-------------|------------|------------|-------------|-------------|
| Throttling of the pumping speed at 1 mbar (0.75 Torr) intake pressure, approx. | % | 10 | 15 | 8 | 16 | 10 | 15 | 8 | 16 |
| at 10 mbar (7.5 Torr) intake pressure, approx. | % | 5 | 7 | 4 | 9 | 5 | 7 | 4 | 9 |
| Capacity for dust | l (qt) | 0.6 (0.63) | 0.6 (0.63) | 2.0 (2.11) | 2.0 (2.11) | - | - | - | - |
| Capacity for resin vapors or similar | kg (lbs) | - | - | - | - | 0.15 (0.3) | 0.15 (0.3) | 0.35 (0.8) | 0.35 (0.8) |
| Impact ring filling | l (qt) | 0.5 (0.53) | 0.5 (0.53) | 3.5 (3.70) | 3.5 (3.70) | - | - | - | - |
| Active charcoal filling | kg (lbs) | - | - | - | - | 0.6 (1.3) | 0.6 (1.3) | 1.4 (3.1) | 1.4 (3.1) |
| Weight | kg (lbs) | 4.5 (9.9) | 4.5 (9.9) | 18.4 (40.6) | 18.4 (40.6) | 4.5 (9.9) | 4.5 (9.9) | 18.4 (40.6) | 18.4 (40.6) |

Ordering Information

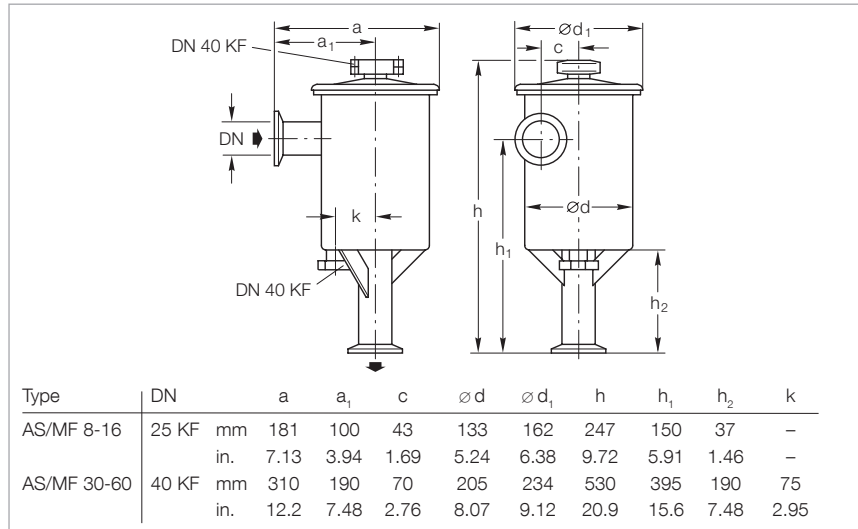
AS 8-16

AS 30-60

MF 8-16

MF 30-60

| | Part No. | Part No. | Part No. | Part No. |
|---|---------------|---------------|---------------|---------------|
| Dust separator | 186 11 | 186 16 | - | - |
| Molecular filter | - | - | 186 12 | 186 17 |
| Replacement filter insert | - | 178 43 | - | - |
| Replacement active charcoal insert | - | - | 178 07 | 178 08 |
| Active charcoal, undried, 5 kg (11 lbs) | - | - | 178 10 | 178 10 |



Dimensional drawing for the AS dust separators and MF molecular filters

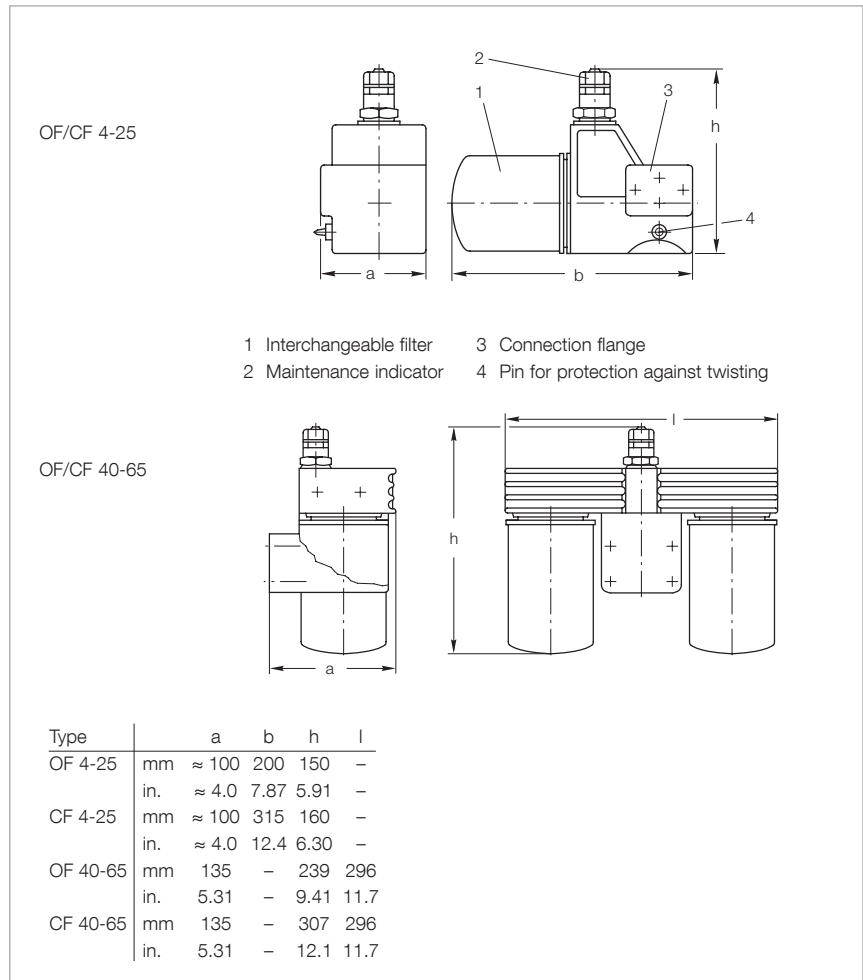
Mechanical Oil Filters OF 4-25 and OF 40-65 / Chemical Oil Filters CF 4-25 and CF 40-65



OF 4-25 mechanical oil filter

Since there is a pressure-lubrication system with an oil pump in every TRIVAC B, it is possible to connect main flow oil filters.

These filters are available either for mechanical filtering (OF types) or combined chemical/mechanical filtering (CF types).



Dimensional drawings for the OF mechanical oil filters and CF chemical oil filters

Advantages to the User

- Main flow oil filter
- Longer service life for the oil depending on the type of application
- Can be installed without problems to the TRIVAC B
- Hose connections are not required
- Easily interchangeable filters
- Only a small amount of oil needs to be added when changing the filters
- Expansion of the range of applications in case of special requirements

Typical Application

- Same casing for OF and CF types
- Greater reliability by standard maintenance indicator
- Built-in bypass valve
- Owing to the highly effective adsorbent for polar substances, an up to ten-fold adsorption effect is attained over normal bleaching earth (CF)
- Prevents mechanical damage to the pump
- Separation of fine particles from the pump's oil (sizes between 5 and 10 µm (OF))

Technical Data**OF 4-25****CF 4-25****OF 40-65****CF 40-65**

| | | | | | |
|---|---------------------|----------------------|----------------------|----------------------|----------------------|
| Connection to pump | TRIVAC | D 4/8 B, D 16/25 B | D 4/8 B, D 16/25 B | D 40/65 B | D 40/65 B |
| Nominal throughput | l x h ⁻¹ | 900 | 900 | 2000 | 2000 |
| Separation | | | | | |
| mechanical oil filter | µm | 5 to 10 | 5 to 10 | 5 to 10 | 5 to 10 |
| chemical oil filter | µm | to 3 | to 3 | to 3 | to 3 |
| Permissible operating pressure | bar (psig) | 2.5 (21.7) | 2.5 (21.7) | 2.5 (21.7) | 2.5 (21.7) |
| Opening pressure, non-return valve | bar (psid) | 0.12 (1.7) | 0.12 (1.7) | 0.12 (1.7) | 0.12 (1.7) |
| bypass valve | bar (psid) | 2.5 ±0.3 (21.7 ±4.3) | 2.5 ±0.3 (21.7 ±4.3) | 2.5 ±0.3 (21.7 ±4.3) | 2.5 ±0.3 (21.7 ±4.3) |
| Topping up amount during first time installation | l (qt) | 1.0 (1.1) | 1.0 (1.1) | 2.5 (2.6) | 2.5 (2.6) |
| filter exchange | l (qt) | 1.0 (1.1) | 1.0 (1.1) | 2.0 (2.1) | 2.0 (2.1) |
| Weight, ready for operation, dry | kg (lbs) | 4.0 (8.8) | 4.0 (8.8) | 10.0 (22.1) | 10.0 (22.1) |

Ordering Information**OF 4-25****CF 4-25****OF 40-65****CF 40-65**

| | Part No. | Part No. | Part No. | Part No. |
|--|---------------|---------------|-----------------------------|-----------------------------|
| Mechanical oil filter | 101 91 | - | 101 92 | - |
| Chemical oil filter | - | 101 96 | - | 101 97 |
| WF 4-25 interchangeable filter, paper, 0.5 l (0.5 qt) | 189 91 | - | - | - |
| WF 40-65 interchangeable filter, paper 0.75 l (0.8 qt) | - | - | 189 92 ¹⁾ | 189 92 ¹⁾ |
| WF Alu 4-65 interchangeable filter, paper and Al ₂ O ₃ , 1 l (1.1 qt) | - | 189 96 | - | 189 96 ¹⁾ |

¹⁾ 2 pieces are required

Chemical Filters with Safety Isolation Valve

CFS 16-25 and CFS 40-65



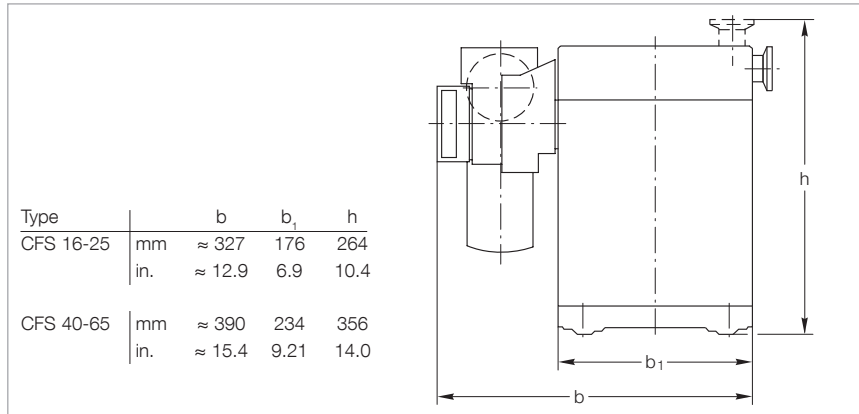
CFS 40-65

The CFS chemical filters with safety isolation valve are main flow oil filters for the TRIVAC B and BCS pumps.

The CFS is part of the TRIVAC SYSTEM.

Advantages to the User

- The CFS is included in the main lubricant flow
- Rapid filter exchange
 - the pump may continue to operate while changing the filters
- Visual indication of the filter's condition through a maintenance indicator
- Aluminium component with isolation valve for one or two interchangeable filters
- All aluminium parts are surface protected
- May be operated with different interchangeable filters
- Over-pressure relief valve in the interchangeable filters
- Prepared for connection of a differential pressure switch and an oil pressure switch
- May also be used on the TRIVAC B pumps



Dimensional drawing for the CFS (mounted on a TRIVAC BCS)

Technical Information

The CFS is cleaned in the factory to such an extent, that it may be operated either with mineral oil (e.g. LEYBONOL LVO 100) or perfluoropolyether (PFPE, e.g. LEYBONOL LVO 400).

Supplied Equipment

All gaskets and mounting parts required for installation.

Aluminium particle filters (WF Alu-Part) sealed for shipping are included separately.

Technical Data

CFS 16-25

CFS 40-65

| Connection to pump | TRIVAC | D 16/25 B D 16/25 BCS (-PFPE) | D 40/65 B D 40/65 BCS (-PFPE) |
|--|-------------------|----------------------------------|----------------------------------|
| Nominal throughput | $l \times h^{-1}$ | 900 | 2000 |
| Permissible operating pressure | bar (psig) | 2.5 (21.7) | 2.5 (21.7) |
| Opening pressure | | | |
| Non-return valve | bar (psid) | 2.5 (21.7) | 2.5 (21.7) |
| Bypass valve | bar (psid) | 2.5 ±0.3 (21.7 ±4.3) | 2.5 ±0.3 (21.7 ±4.3) |
| Filter medium | | Al ₂ O ₃ | Al ₂ O ₃ |
| Lubricant filling when using WF Alu-Part | l (qt) | 1.4 (1.5) | 3.3 (3.5) |
| Weight, ready for operation, dry | kg (lbs) | 7.0 (15.4) | 15.5 (34.1) |

Ordering Information

CFS 16-25

CFS 40-65

| | Part No. | Part No. |
|---|-------------------|---------------------------------|
| Chemical filter with safety isolation valve | 101 76 | 101 77 |
| WF Alu-Part combination filter, paper and Al ₂ O ₃ , 1.6 l (1.7 qt) | 189 99 | 189 99 ¹⁾ |
| WF particle filter, paper, 1.6 l (1.7 qt) | 200 09 804 | 200 09 804 ¹⁾ |
| WFG particle filter, paper with support mesh, 1 l (1.1 qt) | 189 90 | 189 90 ¹⁾ |

¹⁾ 2 pieces are required

Inert Gas System

IGS 16-25 and IGS 40-65



IGS

This accessory, which is controlled via solenoid valves, permits the controlled admission of special gases into the TRIVAC BCS.

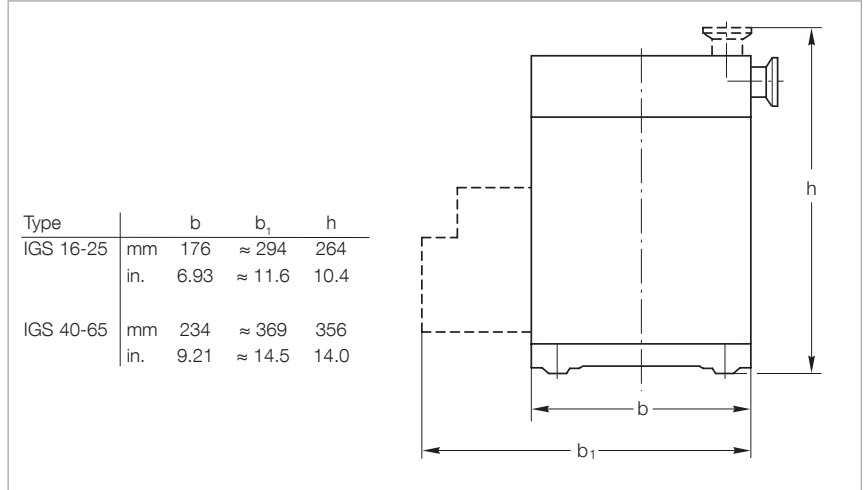
The IGS is part of the TRIVAC SYSTEM.

Advantages to the User

- Ready for connection to an inert gas supply
- Solenoid valve for reduced gas ballast
- Solenoid valve for purging the oil box
- Float throughput gauge with throttling valve adjustable from 200 to 700 l x h⁻¹
- The flowing quantity can be read directly
- System protection by a non-return valve (requires a reservoir pressure of at least 3 bar (29 psi, gauge)) – this reliably prevents the reservoir vessel from being evacuated
- Connects directly on to the TRIVAC BCS

Typical Applications

- Reduction of the contamination levels in the lubricant
- Reduction in the dwell time of volatile substances within the pump



Dimensional drawing for the IGS (mounted on a TRIVAC BCS)

Technical Information

The amount of inert gas ballast is restricted by a nozzle to 200 l x h⁻¹. Larger quantities are used for purging.

Supplied Equipment

Solenoid valves with connection cables and plugs, the required connecting pieces, mounting screws and cover panel.

Technical Data

| | TRIVAC | IGS 16-25 | IGS 40-65 |
|--|---------------------|---------------------|---------------------|
| Connection to pump | TRIVAC | D 16/25 BCS (-PFPE) | D 40/65 BCS (-PFPE) |
| Min. amount of admitted gas at a reservoir pressure of 3.0 bar (29 psig) | l x h ⁻¹ | 200 | 200 |
| Max. amount of admitted gas at a reservoir pressure of 6.0 bar (72.5 psig) | l x h ⁻¹ | 1450 | 1450 |
| Supply voltage for the solenoid valves | V DC | 24 | 24 |
| Power consumption | W | 10 | 10 |
| Weight | kg (lbs) | 1.0 (2.2) | 1.4 (3.1) |
| Connection thread | G (BPS) | 1/8" | 1/8" |

Ordering Information

| | IGS 16-25 | IGS 40-65 |
|------------------------------|---------------|----------------|
| Inert gas system | 161 76 | - |
| Inert gas system, UL conform | - | 161 68V |

Limit Switch System

LSS 16-25 and LSS 40-65



LSS

This accessory consists of a package of limit switches. It is used to monitor system functions.

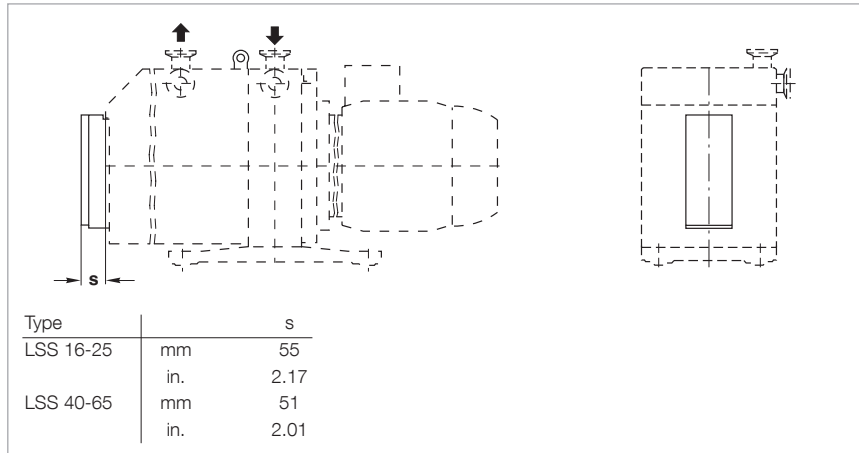
The LSS is part of the TRIVAC SYSTEM.

The package of limit switches includes:

- Differential pressure switch to monitor the CFS
- Oil pressure switch to monitor the operating pressure
- Flow switch to monitor the inert gas flow
- Pressure switch to monitor the pressure in the oil box of the pump
- Connection cable and plug for the temperature switch used for temperature monitoring
- Float switch with housing to monitor the oil level

Advantages to the User

- Errors are indicated well in advance so that it will in most cases be possible to complete the process for the running batch
- The switching action is independent of the optical displays (for optimum reliability)
- The temperature switch is already present in the TRIVAC BCS



Dimensional drawing for the LSS (mounted on a TRIVAC BCS)

Typical Application

- Changing the status in case operating conditions arise which are not permissible

Supplied Equipment

Fully wired-up switches with plugs as well as all required gaskets and mounting parts.

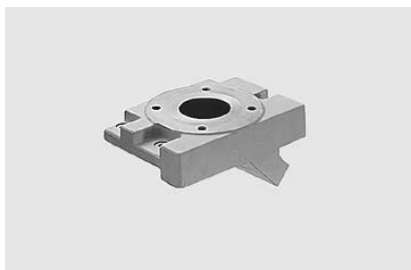
Technical Data

| | TRIVAC | LSS 16-25 | LSS 40-65 |
|--------------------|----------|---------------------|---------------------|
| Connection to pump | TRIVAC | D 16/25 BCS (-PFPE) | D 40/65 BCS (-PFPE) |
| Operating voltage | V DC | 24 | 24 |
| Switching capacity | W / A | 10.0 / 0.4 | 10.0 / 0.4 |
| Type of protection | IP | 54 | 54 |
| Weight, approx. | kg (lbs) | 2.5 (5.5) | 2.5 (5.5) |

Ordering Information

| | LSS 16-25 | LSS 40-65 |
|---------------------|---------------|---------------|
| Limit switch system | 161 06 | 161 07 |

Roots Pump Adaptor



Roots pump adaptor

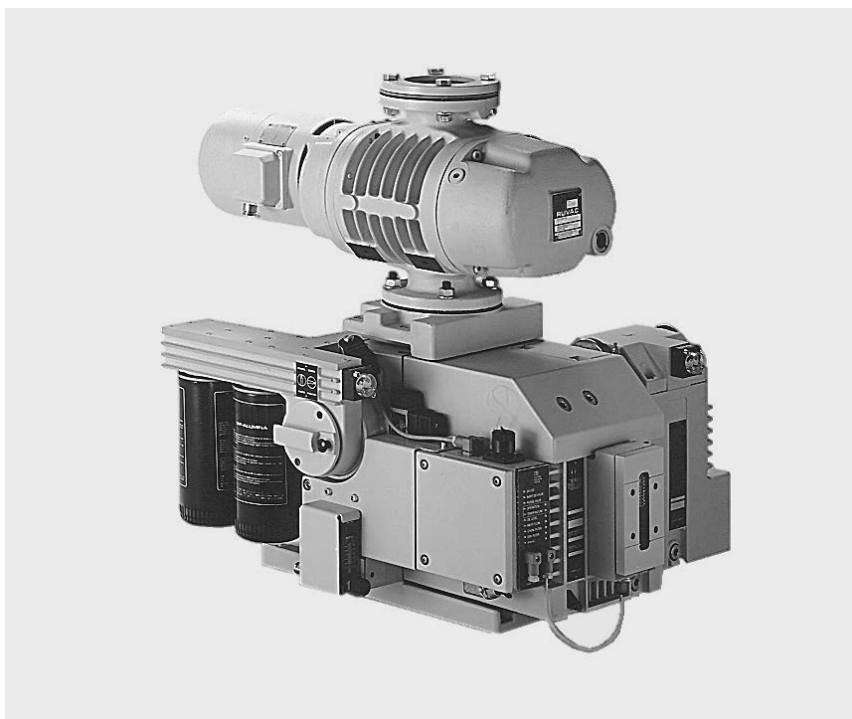
The Roots pump adaptor allows the direct installation of a Roots pump on a TRIVAC D 40/65 B/BCS.

Advantages to the User

- Compact and space-saving
- Short and direct connection between the pumps
- Minimal conductance loss
- Easy installation

Typical Application

- Simple assembly of a small pump system



Pump system consisting of a TRIVAC D 65 BCS and a RUVAC WS 251

Technical Data

| | | |
|--------------------|----------|---|
| Connection to pump | TRIVAC | D 40/65 B/BCS (-PFPE) and RUVAC WAWAU/WS/WSU 251 |
| Weight, approx. | kg (lbs) | 11.5 (25.4) |

Roots Pump Adaptor

Ordering Information

| | Part No. |
|--------------------|----------|
| Roots pump adaptor | 168 30 |

Roots Pump Adaptor

Only available for purchase in North and South America

RST Refillable Traps



RST refillable trap

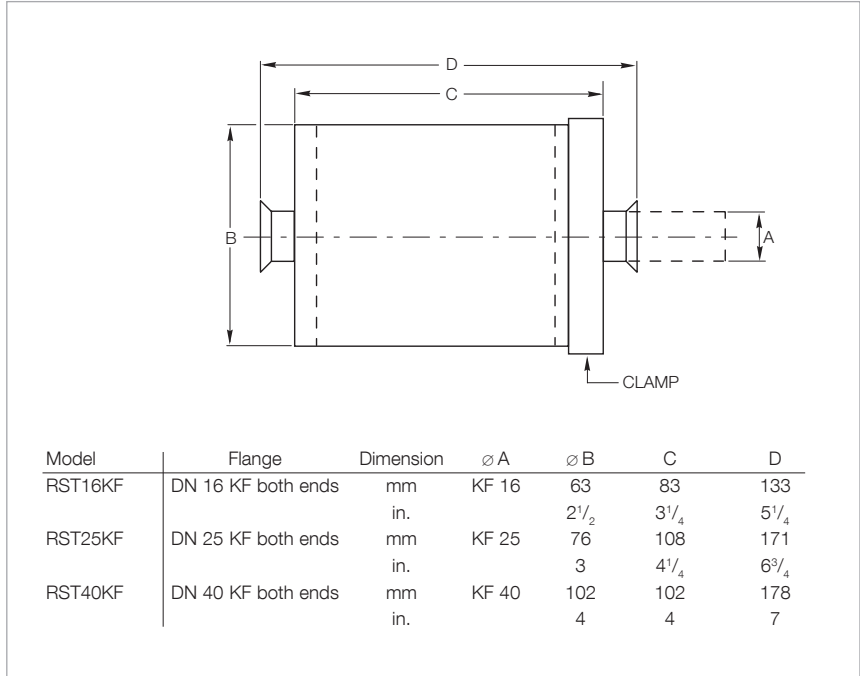
The RST traps are made from 304 stainless steel, and when specified with stainless steel filtration media, are fully suited for corrosive applications. The media is inserted directly into the trap. This ensures direct contact with the trap walls. There is no oil path between the trap wall and the retainer gasket to reduce trap effectiveness.

Advantages to the User

- Refillable
- Two filtration media
- Easy to clean
- Easy to recharge
- KF flanges

Applications

Foreline traps are utilized whenever long-term effects of mechanical pump oil back migration into the pumped chamber or higher vacuum (oil diffusion) pump may be undesirable. Copper wool for standard applications and stainless steel wool for corrosive applications are available.



Dimensional drawing for the RST

Technical Data

RST16KF RST25KF RST40KF

| | | | | |
|--------------------|--------|-------------|---------------|---------------|
| Connection to pump | TRIVAC | D 4/8 B/BCS | D 16/25 B/BCS | D 40/65 B/BCS |
|--------------------|--------|-------------|---------------|---------------|

Ordering Information

RST16KF RST25KF RST40KF

| | Part No. | Part No. | Part No. |
|----------------------------|-------------------|-------------------|-------------------|
| RST16KF 1.9 lb (0.9 kg) | 99 171 135 | - | - |
| RST25KF 2.6 lb (1.2 kg) | - | 99 171 136 | - |
| RST40KF 4.1 lb (1.9 kg) | - | - | 99 171 137 |
| Filtering media | | | |
| Stainless steel | 99 171 141 | 99 171 141 | 99 171 141 |
| Copper | 99 171 145 | 99 171 146 | 99 171 147 |

Only available for purchase in North and South America

SE Smoke Eliminator



SE smoke eliminator

The Leybold SE smoke eliminator can be utilized on all TRIVAC B rotary vane vacuum pumps where pump fluid loss at the exhaust port must be eliminated. These filters consist of a replaceable two-stage

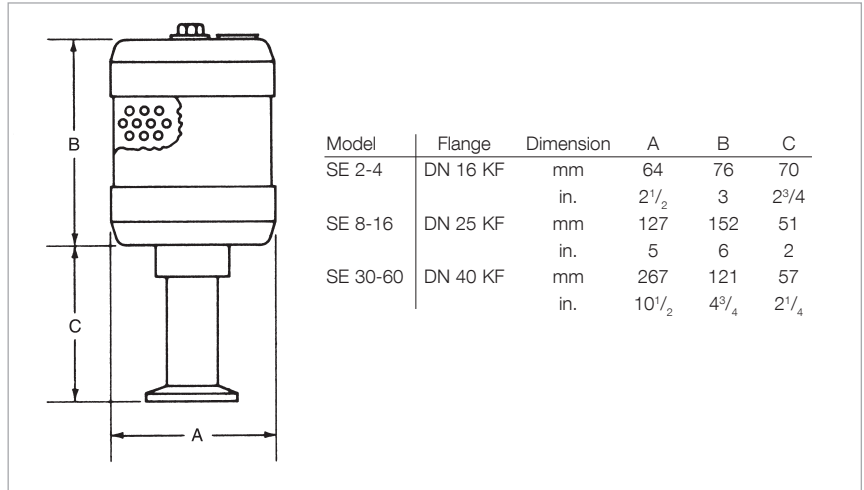
coalescing element mounted in a steel housing. For maintenance purposes, the top of the housing can be removed by loosening a single bolt. The filter assembly attaches to the exhaust port of the TRIVAC pump by means of a KF flange. Since three models are available, an SE smoke eliminator is available for each TRIVAC pump model.

Advantages to the User

- Two stage design
- Three sizes for all TRIVAC models
- KF flanges

Applications

When any oil sealed mechanical vacuum pump is used to pump a fixed volume from atmospheric pressure to some lower pressure or when a dynamic gas flow from a process stream is pumped, some mechanical pump fluid loss will occur at the exhaust of the pump. The more often a fixed volume is cycled from atmospheric pressure to a lower pressure or the longer a pump operates at a relatively high inlet pressure in a dynamic flow condition, the greater will be the fluid loss at the exhaust port of the pump.



Dimensional drawing for the SE

Technical Data

SE 2-4

SE 8-16

SE 30-60

| Connection to pump | TRIVAC | D 4/8 B | D 16/25 B | D 40/65 B |
|--------------------|--------|---------|-----------|-----------|
| | | | | |

Ordering Information

SE 2-4

SE 8-16

SE 30-60

| | Part No. | Part No. | Part No. |
|---------------------|-------------------|-------------------|-------------------|
| Smoke eliminator | 99 171 125 | 99 171 126 | 99 171 127 |
| Replacement element | | | |
| RE 2-4 | 99 171 128 | - | - |
| RE 8-16 | - | 99 171 129 | - |
| RE 30-60 | - | - | 99 171 130 |

By utilizing a coalescing exhaust filter for these applications, the fluid and exhaust gases are separated, and in the case of the SE smoke eliminator, the coalesced fluid is allowed to drain back into the pump fluid reservoir. Annoying oil fog to the atmosphere is thus eliminated.

Eventually, after about a year's normal operation, the coalescing element will become totally saturated and oil fog will be apparent when high inlet pressures

are prevailing. The low cost coalescing element can be easily replaced.

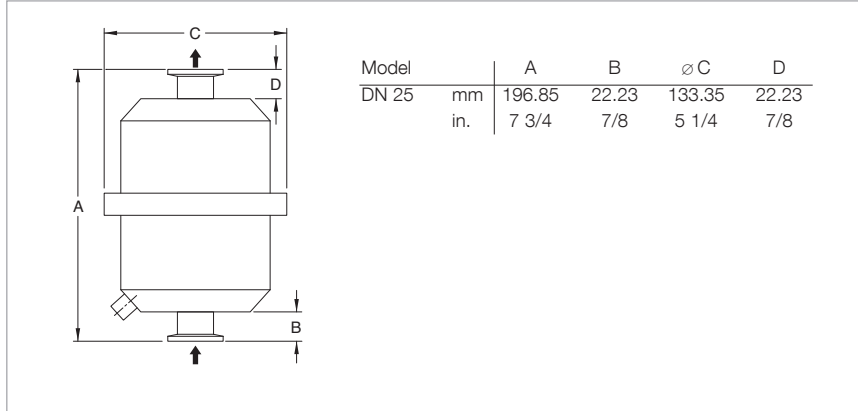
Note: For applications where toxic, corrosive, radioactive or precious gases are pumped, we highly recommend the use of our AF coalescing exhaust filters in-stead of the SE smoke eliminator. The AF is an in-line type coalescing filter and much more suitable for these applications.

Only available for purchase in North and South America

Compact Oil Mist Exhaust Filters



Compact oil mist exhaust filter



Dimensional drawing for the compact oil mist exhaust filters

Applications and Equipment

- Rotary vane pumps
- Vacuum furnaces, ovens and degassing
- Refrigeration and air condition
- Vacuum freeze drying
- Vacuum metallizing
- Vacuum coating
- Laboratory furnaces, test stands
- Autoclaving, sterilization
- Leak detection

Features and Specifications

- Minimum 99.97% D.O.P. on 3 micron particles
- Captures oil fog, mist or smoke from exhaust of oil lubricated vacuum pumps
- Compact, low profile design
- Stainless steel housing and internals
- Pleated filter element provides increased surface area for low back pressure
- Back pressure valve designed to release element at 7.35 PSI (0.5 bar) differential for pump safety
- 1/8" NPT oil drain
- Easy release V-band clamp
- Seamless drawn housings - no welds to rust or vibrate apart
- Easy field maintenance
- Operating temperature: 40 °F (4 °C) to 220 °F (104 °C)

Technical Data

Compact Oil Mist Exhaust Filter

| | | |
|----------------------------|--------------------------|-----------|
| Connection to pump | TRIVAC | D 16/25 B |
| Inlet and outlet | DN | 25 ISO-KF |
| Nominal vacuum pump rating | scfm (m ³ /h) | 20 (34) |
| Element rating | scfm (m ³ /h) | 20 (34) |
| Weight, approx. | kg (lbs) | 1 (2.2) |

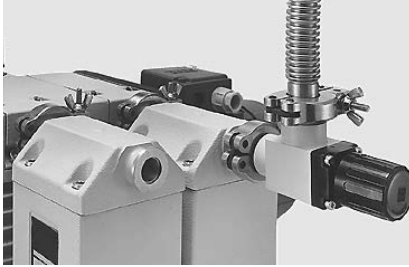
Ordering Information

Compact Oil Mist Exhaust Filter

| | Part No. |
|----------------------------------|-------------------|
| Compact oil mist exhaust filter | 721 87 113 |
| Replacement filter insert filter | 180 102 |

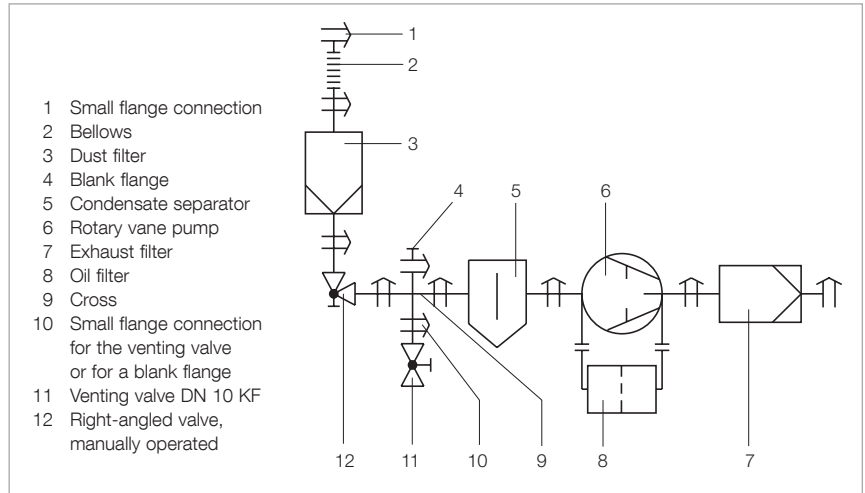
General Accessories

Flange Components, Valves



Our range of flange components and valves is described in detail in the Catalog Parts “Flanges and Fittings” and “Valves”.

Given in the following are only some components which you might find particularly useful when planning your system.



Example of connecting a pump with accessories

Isolation Valve

- The pump is allowed to warm up with the intake line isolated
- The pump may continue to operate in the energy-saving and environmentally compatible ultimate pressure mode when the vacuum chamber is vented briefly
- The pump may be left on after completion of the process so as to regenerate the oil

Branch (Cross)

- Installing a cross in the intake line permits the connection of a vacuum gauge and a venting valve

Flange Connections

Each flange connection requires one each centering and clamping ring.

Ordering Information

DN 16 KF DN 25 KF DN 40 KF

| | Part No. | Part No. | Part No. |
|--|----------------|----------------|----------------|
| Small flange connection | | | |
| Clamping ring | 183 41 | 183 42 | 183 43 |
| Centering ring, aluminium/CR | 183 26 | 183 27 | 183 28 |
| Centering ring, stainless steel/ FPM (FKM) | 883 46 | 883 47 | 883 48 |
| Bellows | 872 41 | 872 43 | 872 45 |
| Right-angled valve, manually operated | | | |
| Aluminium casing | 215 375 | 215 376 | 215 377 |
| Stainless steel casing | 215 383 | 215 385 | 215 386 |
| Blank flange for (reducing) cross | | | |
| Aluminium | 184 46 | 184 41 | 184 41 |
| Stainless steel | 884 36 | 884 41 | 884 41 |
| Reducing cross (to DN 10 KF) | | | |
| Aluminium | - | 184 17 | 184 19 |
| Stainless steel | - | 884 92 | 884 94 |
| Cross DN 16 KF | | | |
| Aluminium | 184 71 | - | - |
| Stainless steel | 884 85 | - | - |
| Small flange connection for venting valve or blank flange | | | |
| Clamping ring | 183 41 | 183 41 | 183 41 |
| (Adaptor) centering ring, aluminium/NBR | 183 56 | 183 21 | 183 21 |
| (Adaptor) centering ring, stainless steel/FPM (FKM) | 883 56 | 883 21 | 883 21 |
| Venting valve DN 10 KF | | | |
| Aluminium | 173 24 | 173 24 | 173 24 |
| Stainless steel | 173 37 | 173 37 | 173 37 |

Miscellaneous

Services

On-site Replacement of the Dynamic Seals (with LEYBONOL LVO 100)

The on-site replacement of the dynamic seals includes the following:

Partial disassembly of the pump, replacement of the complete shaft seal, mounting of the pump including new gaskets and standard oil LEYBONOL LVO 100, electrical safety test, test run including check of the attained ultimate pressure levels.

Ordering Information

On-site Replacement of the Dynamic Seals (with LEYBONOL LVO 100)

| | Part No. |
|--------------------|-----------|
| For pump | |
| TRIVAC D 4 B | AS 1130 F |
| TRIVAC D 8 B | AS 1130 F |
| TRIVAC D 16/25 B | AS 1129 F |
| TRIVAC D 40/65 B | AS 1128 F |
| TRIVAC D 40/65 BCS | AS 1137 F |

Small On-site Maintenance (with LEYBONOL LVO 100)

The small on-site maintenance includes the following:

Oil change (standard LEYBONOL LVO 100), filter replacement, visual inspection of the subassemblies, cleaning of the pump module and the oil box, electrical safety test, test run including check of the attained ultimate pressure levels.

Ordering Information

On-site Maintenance (with LEYBONOL LVO 100)

| | Part No. |
|---|-----------|
| For pump | |
| TRIVAC D 4 B | AS 1160 F |
| TRIVAC D 8 B | AS 1159 F |
| TRIVAC D 16 B + BCS with standard gaskets | AS 1158 F |
| TRIVAC D 25 B + BCS with standard gaskets | AS 1157 F |
| TRIVAC D 40/65 B + BCS with standard gaskets | AS 1156 F |

Comprehensive On-site Maintenance (with LEYBONOL LVO 100) ¹⁾

Comprehensive on-site maintenance includes the following:

Disassembly of the pump, cleaning of all individual components, replacement of all wearing parts, mounting of the pump including new gaskets and standard oil LEYBONOL LVO 100, electrical safety test, test run including check of the attained ultimate pressure levels.

Ordering Information

Comprehensive On-site Maintenance (with LEYBONOL LVO 100) ¹⁾

| | Part No. |
|---------------------------------------|------------------|
| For pump | |
| TRIVAC D 4 B | AS 1125 F |
| TRIVAC D 8 B | AS 1124 F |
| TRIVAC D 16 B | AS 1121 F |
| TRIVAC D 25 B | AS 1120 F |
| TRIVAC D 40 B | AS 1117 F |
| TRIVAC D 65 B | AS 1116 F |
| TRIVAC D 40 BCS with Viton gaskets | AS 1136 F |
| TRIVAC D 65 BCS with Viton gaskets | AS 1135 F |
| TRIVAC D 40 BCS with standard gaskets | AS 1132 F |
| TRIVAC D 65 BCS with standard gaskets | AS 1131 F |

¹⁾ Notes on our on-site after sales service

The listed services include the costs for material and working hours on-site for standard TRIVAC pumps. Services for pump variants upon request.

Transportation and travelling expenses are invoiced at cost. All services refer to the repair of freely accessible and not contaminated vacuum components.

As to services for TRIVAC B-DOT, TRIVAC B-Ex and TRIVAC B ³He please ask us for a quotation.

Complete Refurbishing at the Service Center (with LEYBONOL LVO 100)

Complete refurbishing at the service center includes the following:

Disassembly of the pump, visual inspection of the subassemblies, replacement of all wearing parts, machined reworking of the pump module, mounting of the pump including new gaskets and standard oil LEYBONOL LVO 100, electrical safety test, test run including check of the attained ultimate pressure levels.

Ordering Information

Complete Refurbishing at the Service Center (with LEYBONOL LVO 100)

| | Part No. |
|---------------------------------------|----------|
| For pump | |
| TRIVAC D 4 B | AS 1125 |
| TRIVAC D 8 B | AS 1124 |
| TRIVAC D 16 B | AS 1121 |
| TRIVAC D 25 B | AS 1120 |
| TRIVAC D 40 B | AS 1117 |
| TRIVAC D 65 B | AS 1116 |
| TRIVAC D 40 BCS with Viton gaskets | AS 1136 |
| TRIVAC D 65 BCS with Viton gaskets | AS 1135 |
| TRIVAC D 40 BCS with standard gaskets | AS 1132 |
| TRIVAC D 65 BCS with standard gaskets | AS 1131 |

Complete Refurbishing with Decontamination at the Service Center (with LEYBONOL LVO 100)

Complete refurbishing with decontamination at the service center includes the following:

Disassembly of the pump, decontamination of the individual components, visual inspection of the individual subassemblies, replacement of all wearing parts, machined reworking of the pump module, mounting of the pump including new gaskets and standard oil LEYBONOL LVO 100, electrical safety test, test run including check of the attained ultimate pressure levels.

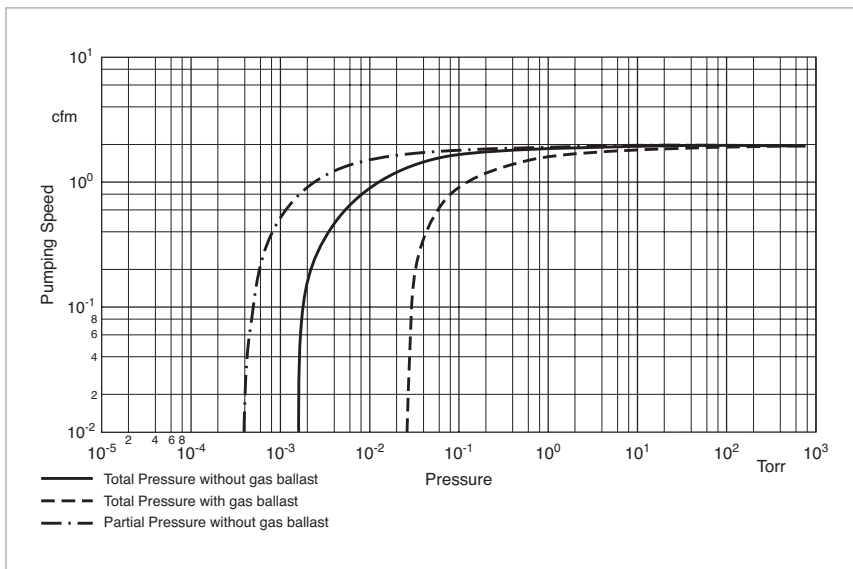
Ordering Information

Complete Refurbishing with Decontamination at the Service Center (with LEYBONOL LVO 100)

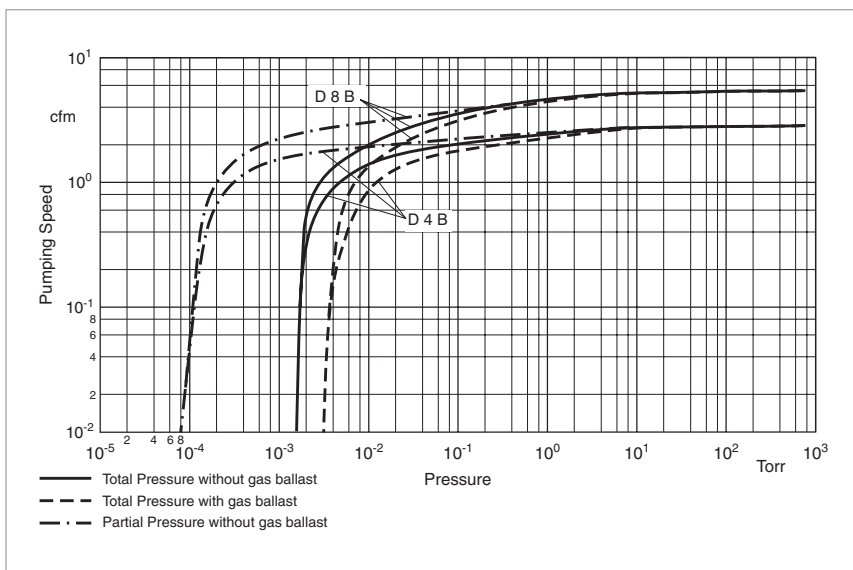
| | Part No. |
|---------------------------------------|-----------|
| For pump | |
| TRIVAC D 4 B | AS 1125 D |
| TRIVAC D 8 B | AS 1124 D |
| TRIVAC D 16 B | AS 1121 D |
| TRIVAC D 25 B | AS 1120 D |
| TRIVAC D 40 B | AS 1117 D |
| TRIVAC D 65 B | AS 1116 D |
| TRIVAC D 40 BCS with Viton gaskets | AS 1155 D |
| TRIVAC D 65 BCS with Viton gaskets | AS 1154 D |
| TRIVAC D 40 BCS with standard gaskets | AS 1132 D |
| TRIVAC D 65 BCS with standard gaskets | AS 1131 D |

Only available for purchase in North and South America

60 Hz Curves

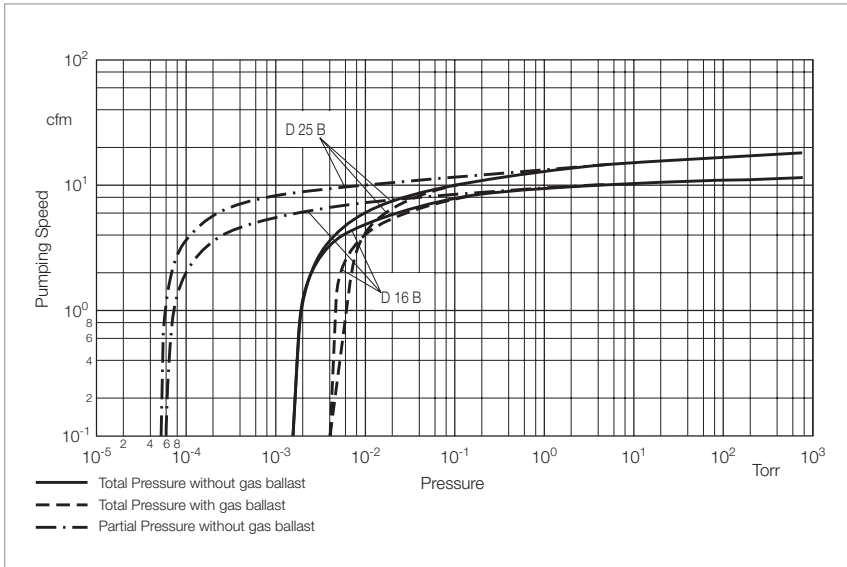


Pumping speed characteristics for the TRIVAC D 2,5 E at 60 Hz

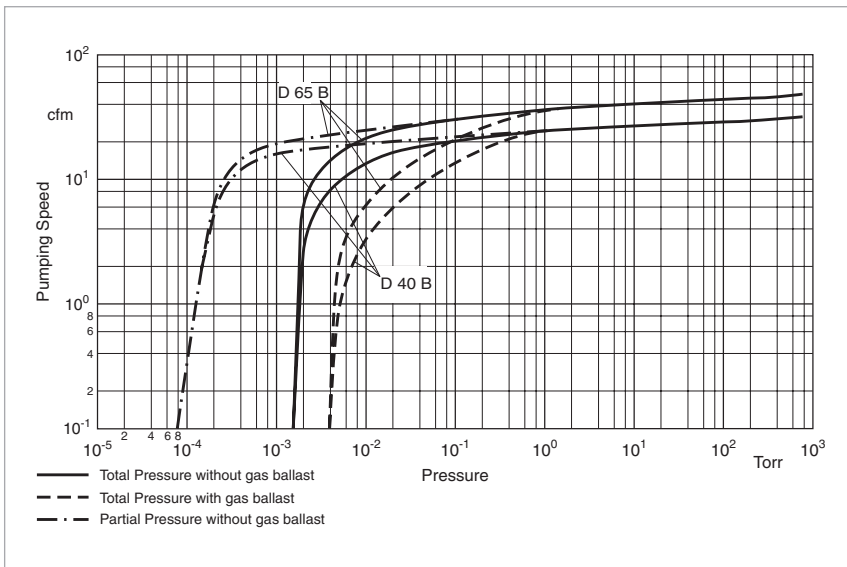


Pumping speed characteristics for the TRIVAC D 4 B and D 8 B at 60 Hz

Only available for purchase in North and South America



Pumping speed characteristics for the TRIVAC D 16 B/BCS and D 25 B/BCS at 60 Hz



Pumping speed characteristics for the TRIVAC D 40 B/BCS and D 65 B/BCS at 60 Hz

Applications for SOGEVAC pumps

| | Pumps SV ... B | SV ... BI | SV ... D | SV ... | SV ... ATEX | SOGEVAC SV 10 B | SOGEVAC SV 16 B | SOGEVAC SV 25 B | SOGEVAC SV 40 B | SOGEVAC SV 65 B | SOGEVAC SV 100 B | SOGEVAC SV 120 B | SOGEVAC SV 300 B | SOGEVAC SV 470/570 B | SOGEVAC SV 470/570 BF | SOGEVAC SV 500 B | SOGEVAC SV 630 B | SOGEVAC SV 630 BF | SOGEVAC SV 750 B/BF | SOGEVAC SV 28 BI | SOGEVAC SV 40 BI | SOGEVAC SV 16 D | SOGEVAC SV 25 D | SOGEVAC SV 200 | SOGEVAC SV 1200 | SOGEVAC SV 40 ATEX | |
|---|-------------------|-----------|----------|--------|-------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|----------------------|-----------------------|------------------|------------------|-------------------|---------------------|------------------|------------------|-----------------|-----------------|----------------|-----------------|--------------------|---|
| Applications | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Vacuum coating | | | | | | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | ■ | ■ | | |
| Research and development | | | | | | | | | | | | | | | | | ■ | ■ | ■ | ■ | | | | | | | |
| Chemistry/pharmaceuticals | | | | | | | ■ | ■ | ■ | ■ | ■ | | | | | | | | | | | | | ■ | | ■ | |
| Metallurgy/furnaces | | | | | | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | ■ | | | | | | ■ | ■ | | |
| Lamps and tubes manufacture | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | | | | ■ | ■ | ■ | ■ | | | | | | | |
| Automotive industry | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | ■ | ■ | ■ | | ■ | | |
| Laser engineering | ■ | ■ | | | | | | | | | | | | | | | | | | | ■ | ■ | | | | | |
| Space simulation | | | | | | | | | | | ■ | ■ | | ■ | ■ | ■ | ■ | ■ | | | | | ■ | ■ | | | |
| Analytical engineering | | | | | | | | | | | | | | | | | ■ | ■ | ■ | ■ | | | | | | | |
| Environment engineering | | | | | | | ■ | ■ | ■ | ■ | ■ | | | | | | | | | | ■ | ■ | ■ | | ■ | | |
| Cooling and air-conditioning | ■ | ■ | ■ | ■ | | | | | | | | | | | | | ■ | ■ | | | | | | | | | |
| Electrical engineering | | | | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | ■ | | | |
| Mechanical engineering | | | | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | ■ | ■ | ■ | |
| Medicine technology | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | ■ | ■ | ■ | ■ | ■ | ■ | | | | | |
| Freeze drying systems | | | | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | ■ | | | | |
| Backing pump for high vacuum pump systems | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | | | | ■ | ■ | | | | | | | | | |
| Food industry | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | ■ | | | | | | | | | | ■ | ■ | | |
| Plant engineering | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Power engineering/district heating | | | | | | | ■ | ■ | ■ | ■ | | | | | | | | | | | | | | ■ | | | |
| Cleaning | | | | | | | | | | | ■ | ■ | ■ | | ■ | ■ | ■ | | | | | | | | ■ | | |
| Packaging | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | ■ | ■ | ■ | | | | | | | | ■ | ■ | | |

Oil for SOGEVAC pumps for different fields of application

| Applications | Vacuum coating | Research and development | Chemistry/Pharmaceutical | Metallurgy/Furnaces | Lamps and tubes industry | Automotive industry | Laser technology | Space technology | Analytical simulation | Environmental engineering | Electrical technologies | Mechanical engineering | Medicine engineering | Vacuum technology | Backing drying cabinets | Food industry | Plant engineering for HV pump systems | Power engineering | Cleaning | Packaging |
|----------------------|----------------|--------------------------|--------------------------|---------------------|--------------------------|---------------------|------------------|------------------|-----------------------|---------------------------|-------------------------|------------------------|----------------------|-------------------|-------------------------|---------------|---------------------------------------|-------------------|----------|-----------|
| LEYBONOL Oils | | | | | | | | | | | | | | | | | | | | |
| LVO 110 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| LVO 120 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| LVO 130 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| LVO 140 | | | | | | | | | | ■ | ■ | | | ■ | | | | | | ■ |
| LVO 150 | | | | | | | | | | ■ | ■ | | | ■ | | | | | | ■ |
| LVO 160 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| LVO 200 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| LVO 210 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| LVO 300 | | | ■ | | | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| LVO 400 | ■ | ■ | ■ | | | | | | | ■ | | | | ● | ■ | | | | | ■ |
| DOT 4 | | | | | ■ | | | | | | | | | | | | | | | |

■ = Standard
● = Possible

The table only lists general applications. Your specific requirements might be subject to deeper analysis. For further questions, please contact our technical Sales support.

For information on oil specifications please refer to Catalog Part "Oils / Greases / Lubricants LEYBONOL®".

Oil for SOGEVAC pumps for different pump types

| Pumps | Pump line | | | D | | | | A | | | | B / BF | | | | BI | ATEX |
|----------------------|------------------|-----------------|--------|----------------|------------------------|---------|---------------------|------------|-------------------|--------------------------------|--------------------|-----------------------------|-----------------------------|--------------------------------------|---|-----------------|------|
| | SV 16 D, SV 25 D | SV 40, SV 65 | SV 100 | SV 200, SV 300 | SV 500, SV 630, SV 750 | SV 1200 | SV 10 B, SV 16 B/FP | SV 25 B/FP | SV 40 B, SV 45 FP | SV 65 B, SV 100 B, SV 120 B/FP | SV 28 BI, SV 40 BI | SV 40 B Category 1 (I)/2(o) | SV 40 B Category 1 (I)/2(o) | SV 40 B to 630 B Category 3 (I)/3(o) | | | |
| LEYBONOL Oils | | | | | | | | | | | | | | | | | |
| LVO 110 | ■ | ■ | | | | | ■ | ■ | ▲ ¹⁾ | | | | | ■ | | | |
| LVO 120 | ■ | ■ | | | | | ■ | ■ | ▲ ¹⁾ | | | | | ■ | | | |
| LVO 130 | ▲ | ▲ | ■ | ■ | ■ | ■ | | | ▲ ²⁾ | ■ | ■ | | | | | | |
| LVO 140 | ● | ● | ● | | | | ● | ● | ▲ | ▲ | | | | | | | |
| LVO 150 | | | ● | ● | ● | ● | | ▲ | ● | ● | ● | | | | | | |
| LVO 160 | ▲ | ▲ | ■ | ■ | ■ | ■ | | | ▲ ²⁾ | ■ | ■ | | | | | | |
| LVO 200 | ● | ● | ● | | | | ● | ● | ▲ | ▲ | | | ● | ■ | | ▲ | |
| LVO 210 | ▲ ²⁾ | ▲ ²⁾ | ● | ● | ● | ● | ▲ | ▲ | ● | ● | ● | | | ■ | ■ | | |
| LVO 300 | ● | ● | ● | ● | ▲ | ▲ | | | ● | ● | ▲ | | | | | ▲ | |
| LVO 400 | ● | ● | ● | ● | ● | ● | | | | ● | ● | | | | | ● ³⁾ | |
| LVO 420 | | | | | | | | | | | | | | ■ | | | |
| DOT 4 | | ● | | | | | | | ● | | | | | | | | |

- = Standard
- = Possible
- ▲ = Please contact Leybold Valence

- ¹⁾ = with single-phase motor
- ²⁾ = with three-phase motor
- ³⁾ = ATEX outside only

The table only lists general applications. Your specific requirements might be subject to deeper analysis. For further questions, please contact our technical Sales support.

For information on oil specifications please refer to Catalog Part "Oils / Greases / Lubricants LEYBONOL®".

Product Range, Features and Design

Oil sealed rotary vane vacuum pumps are being used in all areas of vacuum engineering. They are equally suited for both industrial production and research applications. They may be used to generate a rough and medium vacuum or as backing pumps in pump combinations with Roots vacuum pumps or high vacuum pumps. The SOGEVAC pumps excel also to their low noise levels and smooth operation.

Many years of experience in vacuum engineering and the latest developments in pump technology combine in the SOGEVAC range the capability to adapt to the requirements of both the industry and the environment. The comprehensive range (pumping speeds ranging from 10 to 1200 m³ x h⁻¹ (5.9 to 707 cfm)) allows every customer to select the right pump for his particular needs.

Application Examples

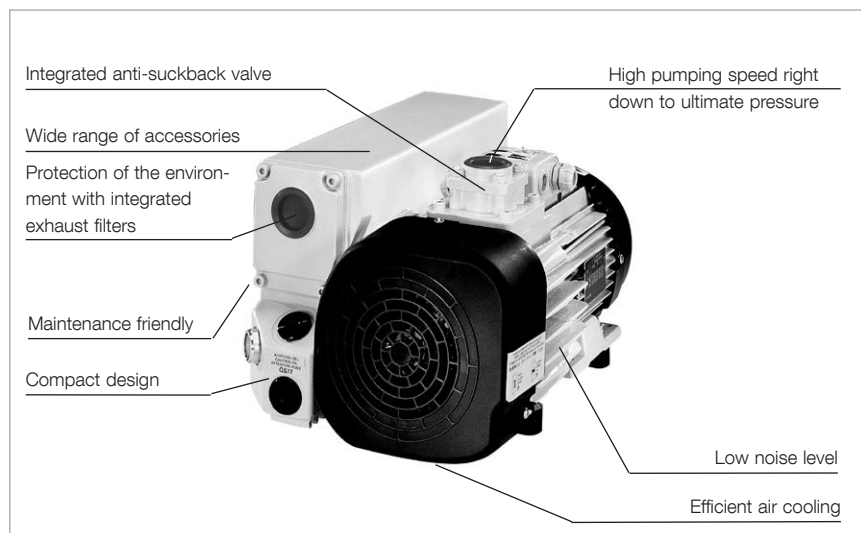
- Automotive industry
- Food industry
- Furnaces and plants
- Vacuum coating
- Metallurgy
- Power engineering, long-distance energy
- Space simulation
- Laser technology
- Medicinal technology

Remark

The impact of the European Directives 2005/32/CE and 2009/125/CE (EuP) is not shown in this catalog.

Advantages to the User

- Continuous operation from atmospheric pressure to ultimate pressure
- High pumping speed also at low pressures
- Low noise level
- Low vibrations
- Integrated exhaust filter, better than 99.9% efficient
- No oil loss owing to the integrated oil return line
- Exhaust gas free of oil mists
- Efficient air cooling (standard)
- Water cooling (optional)
- Low space requirement, easy to install
- Rugged
- Maintenance-friendly
- Compact design
- For direct fitting to Roots pumps from SV 100 B up
- Optimum size-to-performance ratio
- High water vapor tolerance
- For use in various applications
- Wide range of accessories available for adaptation to differing problems



Outstanding features of the SOGEVAC pumps

Design Principle

SOGEVAC pumps are oil sealed rotary vane pumps. Oil injected into the pump chamber for sealing, lubrication and cooling of the pump is recycled from the pump's oil reservoir and filtered, if required, before it is injected. The lubricant system is rated for continuous operation at high intake pressures (max. 1000 mbar abs.) so that the pumps may be used in a versatile manner in most rough vacuum applications (accessories are required for some pumps).

The oil carried with the process gas is roughly separated in the oil box before the discharged gas enters the integrated exhaust filters where the fine oil mist is trapped. The thus filtered oil is collected in the oil box and then supplied back to the pump.

The separating system optimized in consideration of all operating conditions for the vacuum pump guarantees – also at high intake pressures and when pumping out of vapors – an exhaust gas which is free of oil mist (separation efficiency over 99.9%).

Leybold rotary vane vacuum pumps from the SOGEVAC series excel through numerous special features:

Compact Design

The pumps have been so designed that efficiency of the pumps will be high.

For the SV 10 B through SV 65 B, the motor and pumping section use the same shaft. For the SV 100 B to SV 1200 the motor is linked depending on requirements to the pumping section directly via a coupling or via V-belts as a pedestal motor. All vacuum components like anti-suckback, exhaust filter with oil return line needed for a complete vacuum unit as well as the optimized placement of all controls and monitoring components allow for an extremely compact unit.

Quiet Operation

SOGEVAC pumps are designed throughout to keep the noise level as low as possible. This is ensured by optimized running and sliding speeds and the selection of low-noise drive motors, as well as perfected manufacturing techniques using CNC automatic machines for optimized tolerances and reproducibility of the individual components.

Anti-Suckback Valve

A valve is built into the intake of the SOGEVAC pumps. This “anti-suckback valve” is protected by a metal wire-mesh filter. During standstill of the pump (for example due to shutting down or a power failure) the valve closes the intake. This prevents the pressure from rising in the connected chamber while the pump is vented at the same time. Any suck-back of pump oil into the vacuum system is thus also effectively prevented. This blocking process operates under all operating conditions (below 800 mbar (600 Torr)) and even when the gas ballast valve is open.

Protection of the Environment

The built-in exhaust filter ensures an oil-mist free exhaust gases over the entire range of operating pressures – from atmospheric pressure to ultimate pressure.

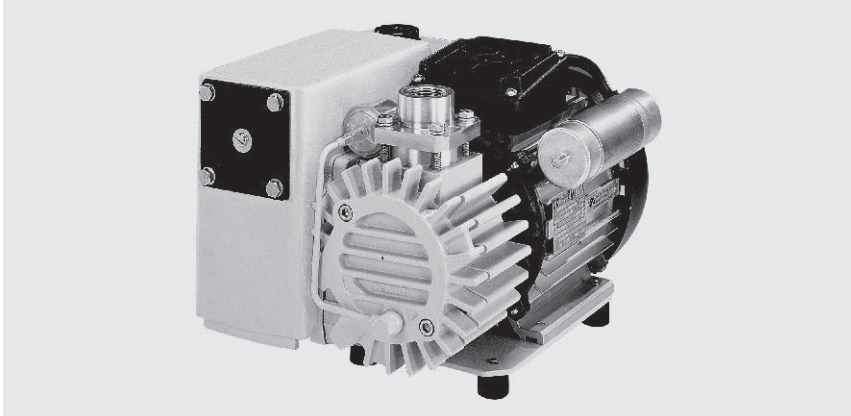
Supplied Equipment

All pumps are delivered with the required quantity of oil: SV 10 B to SV 65 B in a separate canister, whereas the SV 100 B and larger pumps already contain the oil and are thus ready for operation.

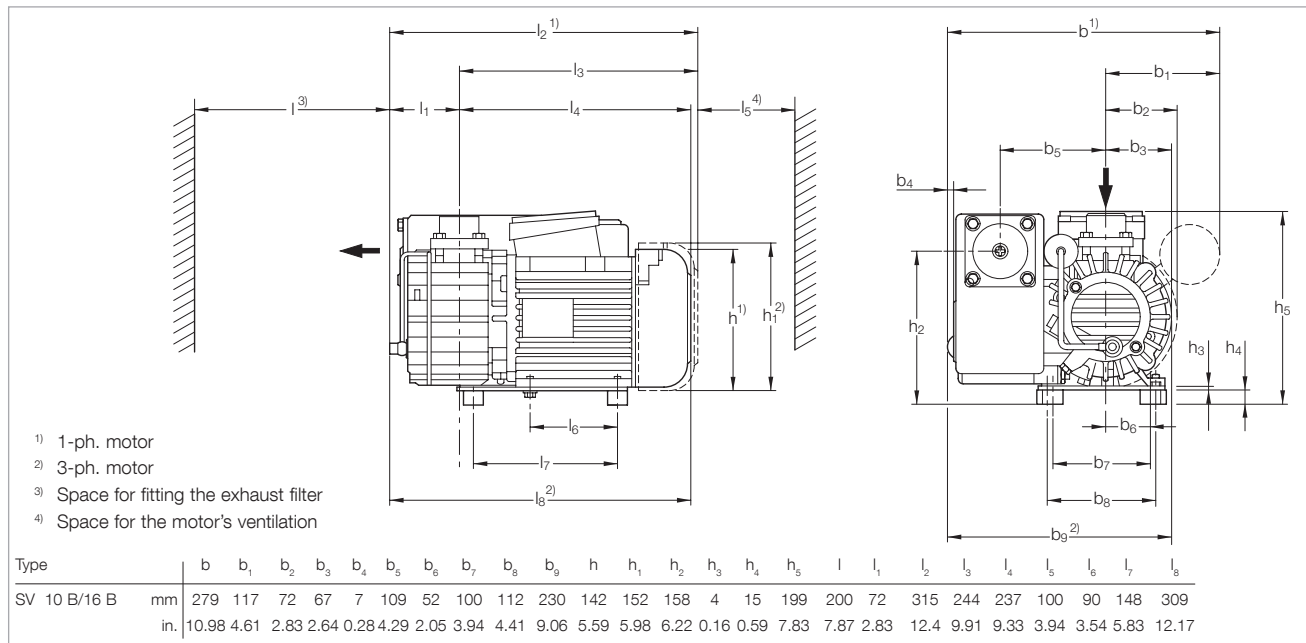
PFPE variants are typically delivered without fluid LVO 400.

Products

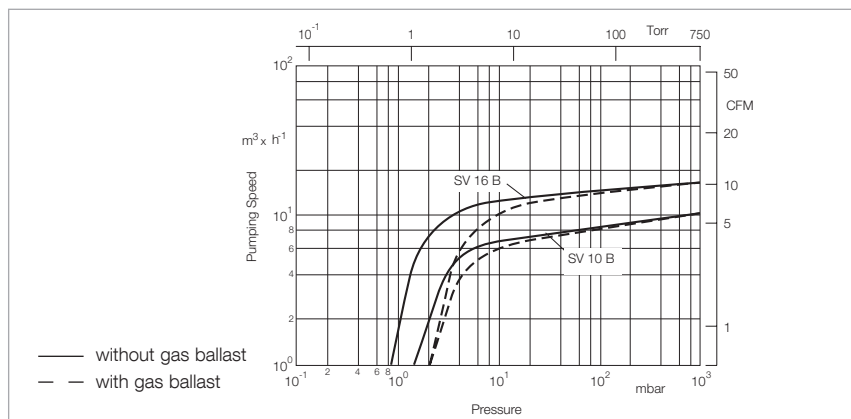
SOGEVAC SV 10 B / SV 16 B



SOGEVAC SV 16 B



Dimensional drawing for the SOGEVAC SV 10 B and SV 16 B



Pumping speed characteristics of the SOGEVAC SV 10 B and SV 16 B at 50 Hz (60 Hz curves at the end of the chapter)

Technical Data**SOGEVAC SV 10 B****SOGEVAC SV 16 B**

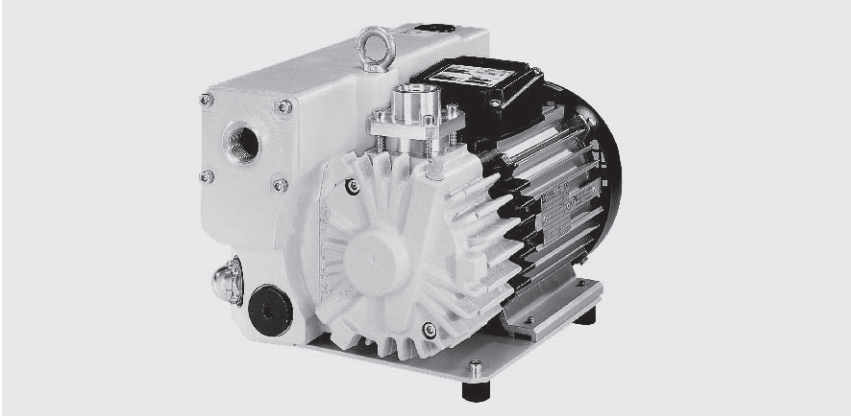
| | | 50 Hz | 60 Hz | 50 Hz | 60 Hz |
|---|--|--|--|--|--|
| Nominal speed ¹⁾ | m ³ x h ⁻¹ (cfm) | 11.0 (6.5) | 13.0 (7.7) | 16.0 (9.4) | 19.0 (11.2) |
| Pumping speed ¹⁾ | m ³ x h ⁻¹ (cfm) | 9.5 (5.6) | 11.5 (6.8) | 15.0 (8.8) | 17.0 (10.0) |
| Ultimate total pressure without gas ballast ¹⁾ | mbar (Torr) | ≤ 1.5 (≤ 1.1) | ≤ 1.5 (≤ 1.1) | ≤ 1.0 (≤ 0.8) | ≤ 1.0 (≤ 0.8) |
| Ultimate total pressure with gas ballast ¹⁾ | mbar (Torr) | ≤ 2.5 (≤ 1.9) | ≤ 2.5 (≤ 1.9) | ≤ 2.0 (≤ 1.5) | ≤ 2.0 (≤ 1.5) |
| Water vapor tolerance ¹⁾ | mbar (Torr) | 10.0 (7.5) | 15.0 (11.3) | 10.0 (7.5) | 15.0 (11.3) |
| Water vapor capacity | g x h ⁻¹ (qt/hr) | 20 (0.02) | 30 (0.03) | 30 (0.03) | 50 (0.05) |
| Oil capacity | l (qt) | 0.5 (0.53) | 0.5 (0.53) | 0.5 (0.53) | 0.5 (0.53) |
| Noise level ²⁾ | dB(A) | 62 (1-ph.) - 60 (3-ph.) | 66 (1-ph.) - 64 (3-ph.) | 62 (1-ph.) - 60 (3-ph.) | 66 (1-ph.) - 64 (3-ph.) |
| Admissible ambient temperature | °C (°F) | 12 to 40 (54 to 104) | 12 to 40 (54 to 104) | 12 to 40 (54 to 104) | 12 to 40 (54 to 104) |
| Motor power | kW (hp) | 0.55 (0.75) | 0.75 (1.02) | 0.55 (0.75) | 0.75 (1.02) |
| Nominal speed | min ⁻¹ (rpm) | 3000 (3000) | 3600 (3600) | 3000 (3000) | 3600 (3600) |
| Type of protection | IP | 55-F | 55-F | 55-F | 55-F |
| Weight (with oil filling) | kg (lbs) | 20.0 (41.55) | 20.0 (41.55) | 20.5 (45.25) | 20.5 (45.25) |
| Dimensions (L x W x H) | mm (in.) | 315 x 281 x 199 (12.4 x 11.06 x 7.83) | 315 x 281 x 199 (12.4 x 11.06 x 7.83) | 315 x 281 x 199 (12.4 x 11.06 x 7.83) | 315 x 281 x 199 (12.4 x 11.06 x 7.83) |
| Connections intake (Inside thread) ³⁾ | G | 3/4" + 1/2" | 3/4" + 1/2" | 3/4" + 1/2" | 3/4" + 1/2" |

Ordering Information**SOGEVAC SV 10 B****SOGEVAC SV 16 B**

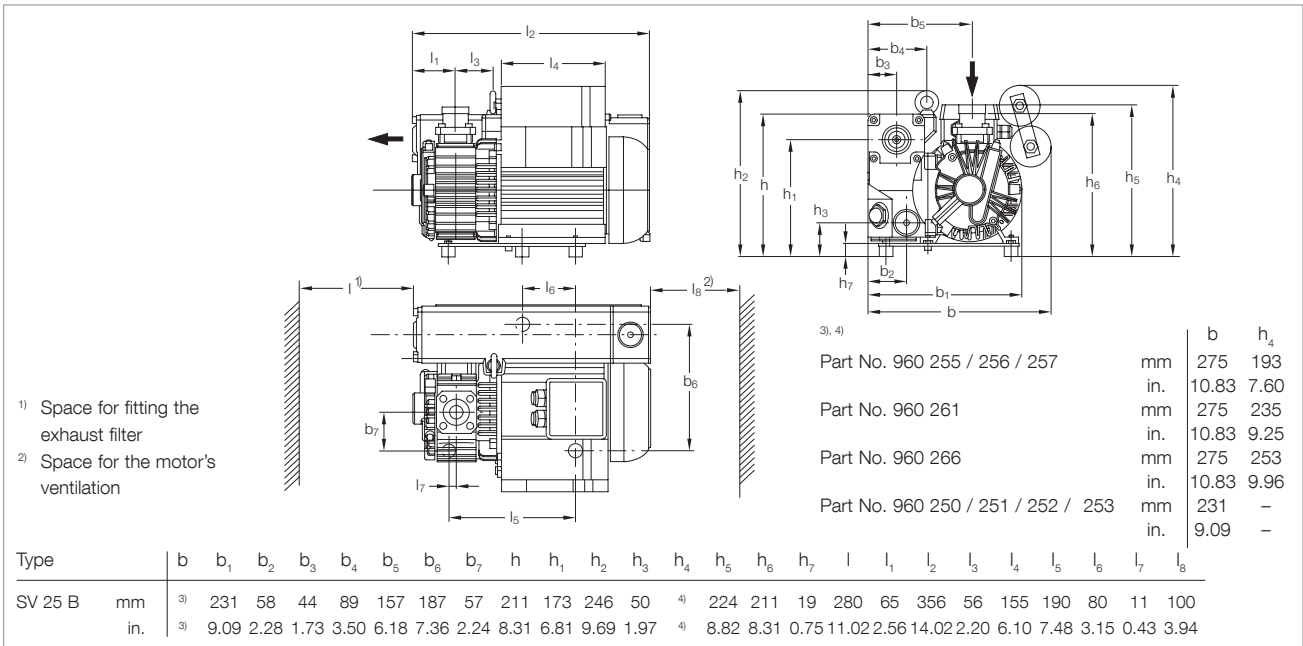
| | 50/60 Hz | 50/60 Hz |
|---|---------------------|---------------------|
| | Part No. | Part No. |
| SOGEVAC SV 10 B/SV 16 B with three-phase motor, with gas ballast 220-240/380-415 V, 50 Hz and 220-266/380-460 V, 60 Hz (CEI) | 960 100 | 960 160 |
| 200 V, 50/60 Hz | 960 115 | 960 175 |
| with single-phase motor ⁴⁾ , with gas ballast 230 V, 50/60 Hz (CEI) | 960 105 | 960 165 |
| 110-120 V, 60 Hz | 960 110 | 960 170 |
| 100 V, 50/60 Hz | 960 114 | 960 174 |
| Other voltages/frequencies ⁵⁾ | upon request | upon request |
| Filling with special oil | upon request | upon request |
| Accessories | | |
| Exhaust filter cartridge AFE SV10B/16B | 714 13 280 | 714 13 280 |
| Exhaust connection G 3/4" | 971 433 140 | 971 433 140 |
| Spare Parts | | |
| Repair kit | 714 22 230 | 714 22 230 |
| Maintenance kit | 971 444 430 | 971 444 430 |
| Seal kit FPM (FKM) | 714 22 220 | 714 22 220 |

¹⁾ To DIN 28 400 and following numbers²⁾ Operated at the ultimate pressure without gas ballast, free-field measurement at a distance of 1 m (3.5 ft)³⁾ 1/2" adapter supplied. Basic port is 3/4"⁴⁾ Single-phase motors do not have plugs, cords or ON/OFF switches⁵⁾ Please indicate when ordering a pump**Remark:** The SV 10 B and SV 16 B cannot work continuously above 150 mbar. Please consult Leybold for this application

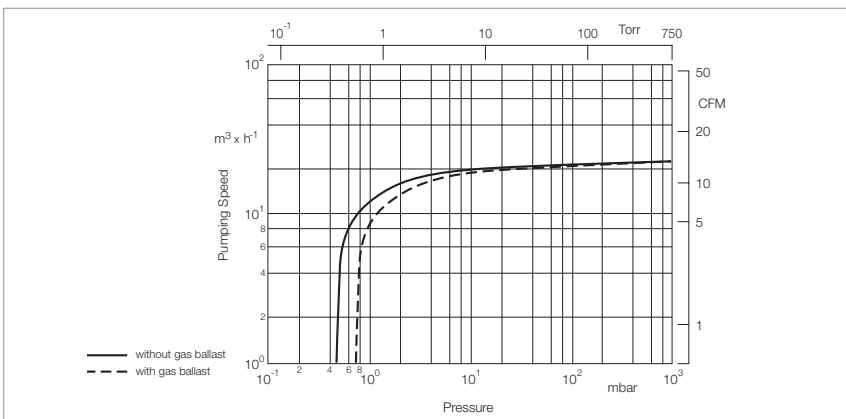
SOGEVAC SV 25 B



SOGEVAC SV 25 B



Dimensional drawing for the SOGEVAC SV 25 B



Pumping speed characteristics of the SOGEVAC SV 25 B at 50 Hz
(60 Hz curves at the end of the chapter)

Technical Data

SOGEVAC SV 25 B

| | | 50 Hz | 60 Hz |
|---|--|---|---|
| Nominal speed ¹⁾ | m ³ x h ⁻¹ (cfm) | 26.0 (15.3) | 31.0 (18.3) |
| Pumping speed ¹⁾ | m ³ x h ⁻¹ (cfm) | 22.5 (13.3) | 25.0 (14.7) |
| Ultimate total pressure without gas ballast ¹⁾ | mbar (Torr) | ≤ 0.5 (≤ 0.4) | ≤ 0.5 (≤ 0.4) |
| Ultimate total pressure with gas ballast ¹⁾ | mbar (Torr) | ≤ 0.8 (≤ 0.6) | ≤ 0.8 (≤ 0.6) |
| Water vapor tolerance ¹⁾ | mbar (Torr) | 10.0 (7.5) | 10.0 (7.5) |
| Water vapor capacity | g x h ⁻¹ (qt/hr) | 85 (0.09) | 100 (0.11) |
| Oil capacity | l (qt) | 0.5 (0.53) | 0.5 (0.53) |
| Noise level ²⁾ | dB(A) | 64 | 67 |
| Admissible ambient temperature | °C (°F) | 12 to 40 (54 to 104) | 12 to 40 (54 to 104) |
| Motor power | kW (hp) | 0.9 (1.2) | 1.1 (1.5) |
| Nominal speed | min ⁻¹ (rpm) | 3000 (3000) | 3600 (3600) |
| Type of protection | IP | 55-F | 55-F |
| Weight (with oil filling) | kg (lbs) | 26 (57.4) [three-phase] 27 (60.0) [single-phase] | 26 (57.4) [three-phase] 27 (60.0) [single-phase] |
| Dimensions (L x W x H) | mm (in.) | 356 x 275 x 246 (14.02 x 10.83 x 9.69) | 356 x 275 x 246 (14.02 x 10.83 x 9.69) |
| Connections ³⁾ | | | |
| Intake ⁴⁾ | G or NPT | 3/4" + 1/2" | 3/4" + 1/2" |
| Exhaust | G or NPT | 3/4" | 3/4" |

Ordering Information

SOGEVAC SV 25 B 50/60 Hz

| | Part No. |
|---|---------------------|
| SOGEVAC SV 25 B with three-phase motor, without gas ballast 200-240/346-415 V, 50 Hz and 200-277/346-480 V, 60 Hz (CEI) | 960 250 |
| 200-240/346-415 V, 50 Hz and 200-277/346-480 V, 60 Hz (CEI), NPT flanges | 960 252 |
| with three-phase motor, with gas ballast 200-240/346-415 V, 50 Hz and 200-277/346-480 V, 60 Hz (CEI) | 960 251 |
| 200-240/346-415 V, 50 Hz and 200-277/346-480 V, 60 Hz (CEI), NPT flanges | 960 253 |
| with single-phase motor, without gas ballast 230 V, 50/60 Hz (CEI) | 960 255 |
| with single-phase motor, with gas ballast 230 V, 50/60 Hz (CEI) | 960 256 |
| 230 V, 50/60 Hz, NPT flanges (CEI) | 960 257 |
| 110-120 V, 60 Hz | upon request |
| 100 V, 50/60 Hz | upon request |
| Other voltages/frequencies ⁵⁾ | upon request |
| Filling with special oil ⁵⁾ | upon request |
| Accessories | |
| Exhaust filter cartridge AFE SV25B | 714 16 340 |
| Spare Parts | |
| Maintenance kit | 971 423 450 |
| Repair kit | 971 423 100 |
| Seal kit FPM (FKM) | 714 19 490 |

¹⁾ To DIN 28 400 and following numbers

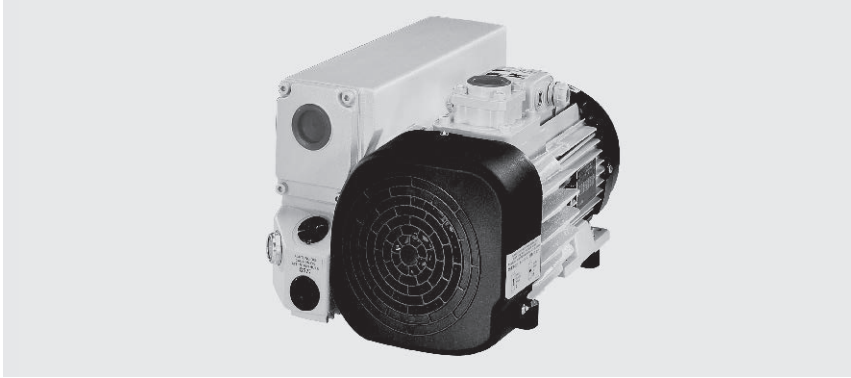
²⁾ Operated at the ultimate pressure without gas ballast, free-field measurement at a distance of 1 m (3.5 ft)

³⁾ Pumps with European and Japanese motors have G, pumps with NEMA motors have NPT

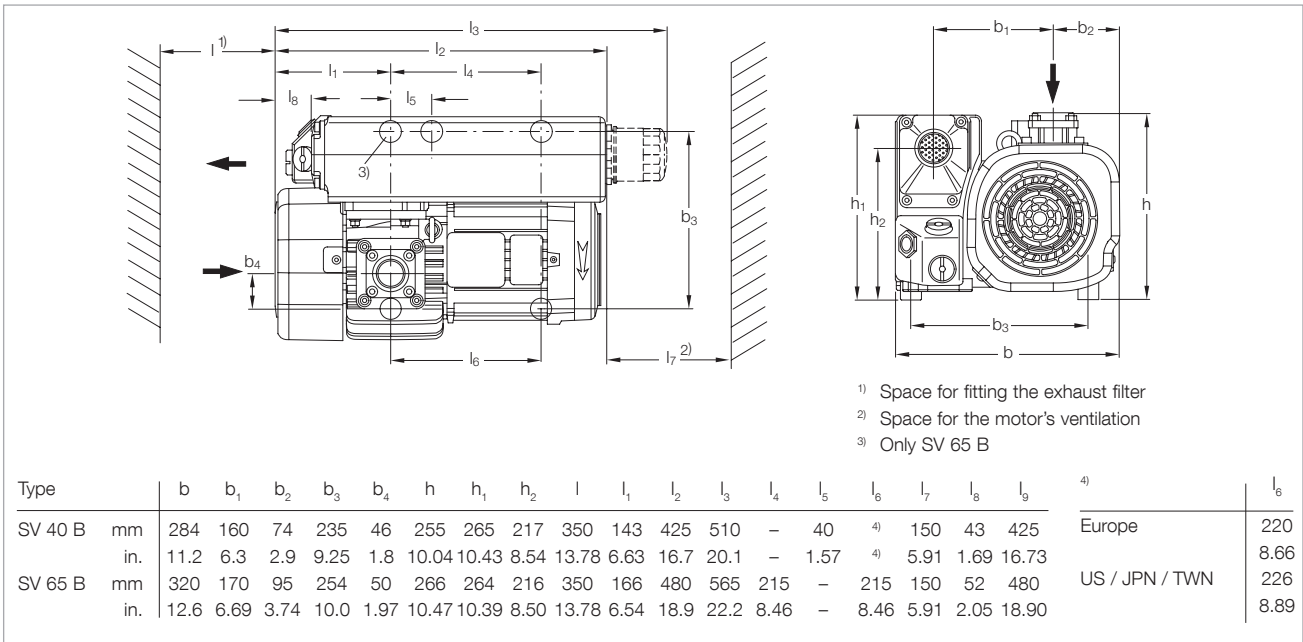
⁴⁾ 1/2" adapter supplied. Basic port is 3/4"

⁵⁾ Please indicate when ordering a pump

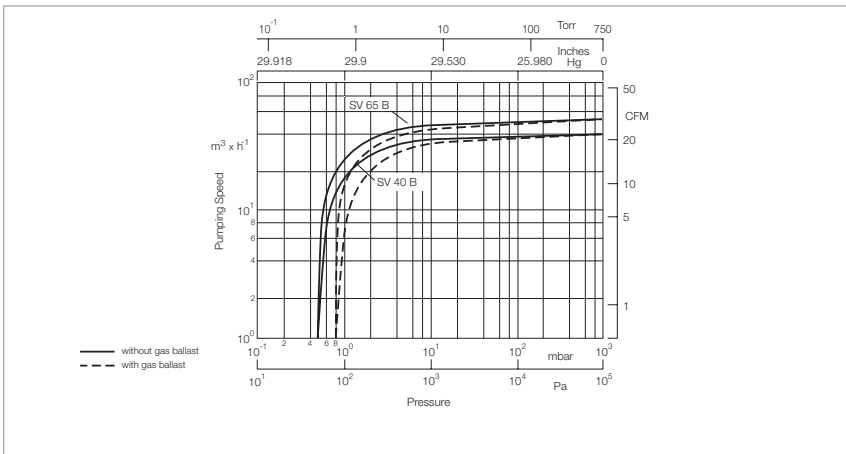
SOGEVAC SV 40 B / SV 65 B



SOGEVAC SV 65 B



Dimensional drawing for the SOGEVAC SV 40 B and SV 65 B with standard motor, European version



Pumping speed characteristics of the SOGEVAC SV 40 B and SV 65 B at 50 Hz (60 Hz curves at the end of the chapter)

| Technical Data | | SOGEVAC SV 40 B | | SOGEVAC SV 65 B | |
|---|--|--|--|--|--|
| | | 50 Hz | 60 Hz | 50 Hz | 60 Hz |
| Nominal speed ¹⁾ | m ³ x h ⁻¹ (cfm) | 44.0 (25.9) | 53.0 (31.2) | 59.0 (34.8) | 71.0 (41.8) |
| Pumping speed ¹⁾ | m ³ x h ⁻¹ (cfm) | 38.5 (22.7) | 47.0 (27.7) | 54.0 (31.8) | 64.0 (37.7) |
| Ultimate total pressure without gas ballast ¹⁾ | mbar (Torr) | ≤ 0.5 (≤ 0.4) | ≤ 0.5 (≤ 0.4) | ≤ 0.5 (≤ 0.4) | ≤ 0.5 (≤ 0.4) |
| Ultimate total pressure ¹⁾ | | | | | |
| with standard gas ballast ²⁾ | mbar (Torr) | ≤ 1.5 (≤ 1.1) | ≤ 1.5 (≤ 1.1) | ≤ 1.5 (≤ 1.1) | ≤ 1.5 (≤ 1.1) |
| with small gas ballast ²⁾ | mbar (Torr) | ≤ 0.8 (≤ 0.6) | ≤ 0.8 (≤ 0.6) | ≤ 0.8 (≤ 0.6) | ≤ 0.8 (≤ 0.6) |
| Water vapor tolerance ¹⁾ | | | | | |
| with standard gas ballast ²⁾ | mbar (Torr) | 30.0 (22.5) | 30.0 (22.5) | 30.0 (22.5) | 30.0 (22.5) |
| with small gas ballast ²⁾ | mbar (Torr) | 10.0 (7.5) | 10.0 (7.5) | 10.0 (7.5) | 10.0 (7.5) |
| Water vapor capacity | | | | | |
| with standard gas ballast ²⁾ | | | | | |
| kg x h ⁻¹ (qt/hr) | | 0.76 (0.80) | 0.90 (0.95) | 1.0 (1.1) | 1.25 (1.32) |
| with small gas ballast ²⁾ | | | | | |
| kg x h ⁻¹ (qt/hr) | | 0.28 (0.30) | 0.34 (0.36) | 0.36 (0.38) | 0.42 (0.44) |
| Oil capacity | l (qt) | 1.0 (1.05) | 1.0 (1.05) | 2.0 (2.1) | 2.0 (2.1) |
| Mean noise level ³⁾ | dB(A) | 58 | 60 | 60 | 64 |
| Admissible ambient temperature | °C (°F) | 12 to 40 (54 to 104) | 12 to 40 (54 to 104) | 12 to 40 (54 to 104) | 12 to 40 (54 to 104) |
| Motor power | kW (hp) | 1.1 (2.0) | 1.5 (2.0) | 1.5 (3.0) | 1.8 (3.0) |
| Nominal speed | min ⁻¹ (rpm) | 1500 (1500) | 1800 (1800) | 1500 (1500) | 1800 (1800) |
| Type of protection | IP | 55-F | 55-F | 55-F | 55-F |
| Materials (materials in contact with the gas) | | Steel, cast iron, Aluminium, Bronze, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper) Epoxy resin & Glass fibre | Steel, cast iron, Aluminium, Bronze, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper) Epoxy resin & Glass fibre | Steel, cast iron, Aluminium, Bronze, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper) Epoxy resin & Glass fibre | Steel, cast iron, Aluminium, Bronze, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper) Epoxy resin & Glass fibre |
| Weight (with oil filling) | kg (lbs) | 43 (94.9) | 45 (99.3) | 49 (108.2) | 52 (114.8) |
| Dimensions (L x W x H) | mm (in.) | 425 x 284 x 265 (16.7 x 11.2 x 10.4) | 425 x 284 x 265 (16.7 x 11.2 x 10.4) | 480 x 320 x 265 (18.9 x 12.6 x 10.4) | 480 x 320 x 265 (18.9 x 12.6 x 10.4) |
| Connection (inside thread) ⁴⁾ | | | | | |
| Intake | G or NPT | 1 1/4" | 1 1/4" | 1 1/4" | 1 1/4" |
| Exhaust | G or NPT | 1 1/4" | 1 1/4" | 1 1/4" | 1 1/4" |

¹⁾ To DIN 28 400 and following numbers

²⁾ Ordering Information, see next page

³⁾ Operated at the ultimate pressure without gas ballast, free-field measurement at a distance of 1 m (3.5 ft)

⁴⁾ Pumps with European and Japanese motors have G, pumps with US motors have NPT

Ordering Information

SOGEVAC SV 40 B

SOGEVAC SV 65 B

| | 50/60 Hz | 50/60 Hz |
|--|------------------------------|------------------------------|
| | Part No. | Part No. |
| SOGEVAC SV 40 B, SV 65 B ¹⁾ | | |
| with three-phase motor, without gas ballast, without oil filter 230/400 V, 50 Hz and 460 V, 60 Hz (CEI) | 960 300 | 960 400 |
| wide range motor (CEI) ²⁾ | 960 320 ²⁾ | 960 420 ²⁾ |
| with three-phase motor, without gas ballast, with oil filter 230/400 V, 50 Hz and 460 V, 60 Hz (CEI) | 960 302 | 960 402 |
| with three-phase motor, with small gas ballast, without oil filter 230/400 V, 50 Hz and 460 V, 60 Hz (CEI) | 960 301 | 960 401 |
| 230/460 V, 60 Hz and 400 V, 50 Hz, NPT flanges (UL/CSA motor) ³⁾ | 960 311 | 960 411 |
| 230/400 V, 50/60 Hz (CEI) | 960 321 ²⁾ | 960 421 ²⁾ |
| 200 V, 50/60 Hz | 960 316 | 960 416 |
| with three-phase motor, with small gas ballast, with oil filter 230/400 V, 50 Hz and 460 V, 60 Hz (CEI) | 960 303 | 960 403 |
| 230/460 V, 60 Hz and 400 V, 50 Hz, NPT flanges (UL/CSA motor) ³⁾ | 960 313 | 960 413 |
| 230/400 V, 50/60 Hz (CEI) | 960 323 ²⁾ | 960 423 ²⁾ |
| 200 V, 50/60 Hz | 960 318 | 960 418 |
| with three-phase motor, with standard gas ballast, without oil filter 230/400 V, 50 Hz and 460 V, 60 Hz (CEI) | 960 305 | 960 405 |
| 230/460 V, 60 Hz and 400 V, 50 Hz, NPT flanges (UL/CSA motor) ³⁾ | 960 312 | 960 412 |
| 230/400 V, 50/60 Hz (CEI) | 960 322 ²⁾ | 960 422 ²⁾ |
| 200 V, 50/60 Hz | 960 317 | 960 417 |
| with three-phase motor, with standard gas ballast, with oil filter 230/400 V, 50 Hz and 460 V, 60 Hz (CEI) | 960 307 | 960 407 |
| 230/460 V, 60 Hz and 400 V, 50 Hz, NPT flanges (UL/CSA motor) ³⁾ | 960 314 | 960 414 |
| 230/400 V, 50/60 Hz (CEI) | 960 324 ²⁾ | 960 424 ²⁾ |
| 200 V, 50/60 Hz | 960 319 | 960 419 |
| Other voltages/frequencies ⁴⁾ | upon request | upon request |
| Filling with special oil ⁴⁾ | upon request | upon request |
| Accessories | | |
| Exhaust filter cartridge | | |
| AFE SV40B | 714 21 180 | - |
| AFE SV65/100B | - | 714 17 300 |
| Spare Parts | | |
| Maintenance kit | 971 427 660 | 971 423 440 |
| Repair kit | 971 427 650 | 714 20 420 |
| Seal kit FPM (FKM) | 971 427 640 | 714 20 410 |
| Oil filter ⁵⁾ | 714 20 980 | 714 20 980 |
| Oil filter bypass | 712 30 570 | 712 30 570 |

¹⁾ Pumps with European and Japanese motors have G, pumps with US voltages motors have NPT

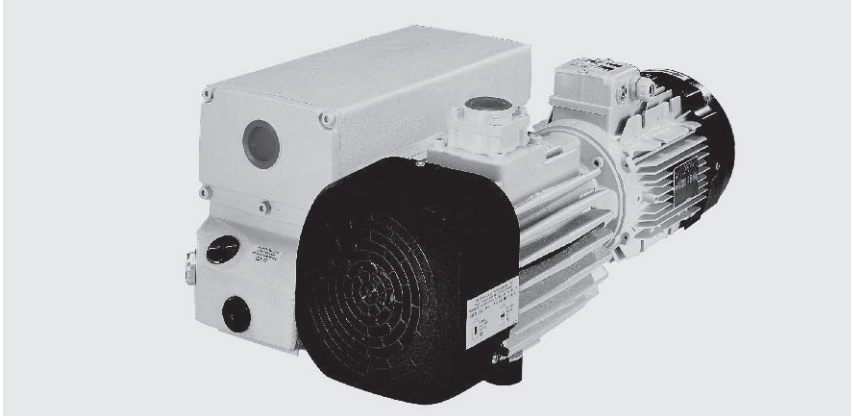
²⁾ Wide range motor: 210-240 & 360-420 V ± 5%, 50 Hz and 210-260 & 360-460 V ± 5%, 60 Hz

³⁾ With NEMA type electrical connections

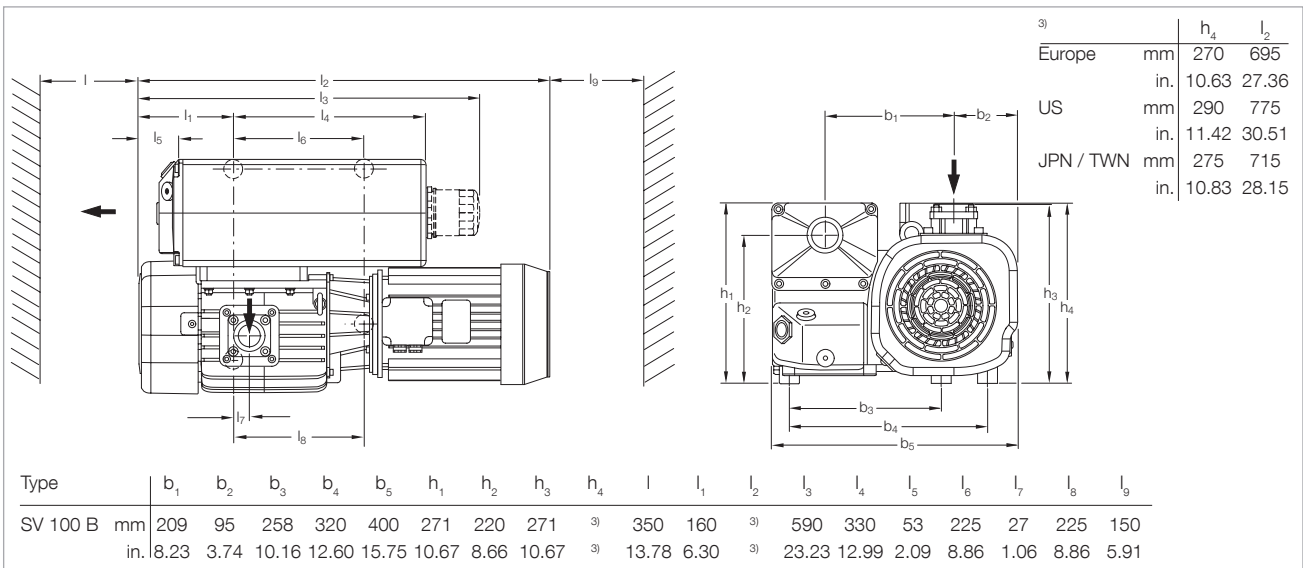
⁴⁾ Please indicate when ordering a pump

⁵⁾ Not included in maintenance kit

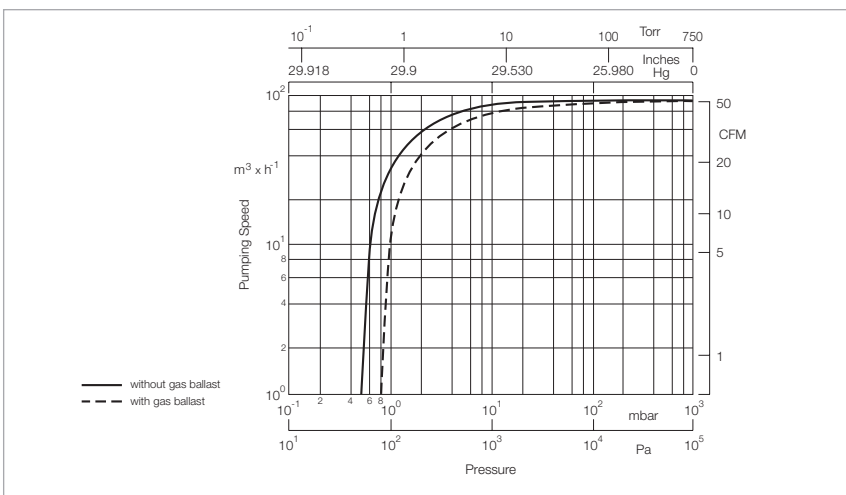
SOGEVAC SV 100 B



SOGEVAC SV 100 B



Dimensional drawing for the SOGEVAC SV 100 B



Pumping speed characteristics of the SOGEVAC SV 100 B at 50 Hz
(60 Hz curves at the end of the chapter)

Technical Data

SOGEVAC SV 100 B

| | | 50 Hz | 60 Hz |
|--|--|--|--|
| Nominal speed ¹⁾ | m ³ x h ⁻¹ (cfm) | 97.5 (57.4) | 117.0 (68.9) |
| Pumping speed ¹⁾ | m ³ x h ⁻¹ (cfm) | 87.5 (51.5) | 105.0 (61.8) |
| Ultimate total pressure without gas ballast ¹⁾ | mbar (Torr) | ≤ 0.5 (≤ 0.4) | ≤ 0.5 (≤ 0.4) |
| Ultimate total pressure ¹⁾ with standard gas ballast ²⁾ | mbar (Torr) | ≤ 1.5 (≤ 1.1) | ≤ 1.5 (≤ 1.1) |
| with small gas ballast ²⁾ | mbar (Torr) | ≤ 0.8 (≤ 0.6) | ≤ 0.8 (≤ 0.6) |
| Water vapor tolerance ¹⁾ with standard gas ballast ²⁾ | mbar (Torr) | 30.0 (22.5) | 30.0 (22.5) |
| with small gas ballast ²⁾ | mbar (Torr) | 10.0 (7.5) | 10.0 (7.5) |
| Water vapor capacity with standard gas ballast ²⁾ | kg x h ⁻¹ (qt/hr) | 1.60 (1.69) | 1.70 (1.80) |
| with small gas ballast ²⁾ | kg x h ⁻¹ (qt/hr) | 0.45 (0.48) | 0.60 (0.63) |
| Oil capacity | l (qt) | 2.0 (2.1) | 2.0 (2.1) |
| Mean noise level ³⁾ | dB(A) | 61 | 64 |
| Admissible ambient temperature | °C (°F) | 12 to 40 (54 to 104) | 12 to 40 (54 to 104) |
| Motor power | kW (hp) | 2.2 (3.5) | 3.5 (5.0) |
| Nominal speed | min ⁻¹ (rpm) | 1500 (1500) | 1800 (1800) |
| Type of protection | IP | 55-F | 55-F |
| Materials (materials in contact with the gas) | | Steel, cast iron, Aluminium, Bronze, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper), Epoxy resin & Glass fibre | Steel, cast iron, Aluminium, Bronze, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper), Epoxy resin & Glass fibre |
| Weight (with oil filling) | kg (lbs) | 81 (179) | 93 (205) |
| Dimensions (L x W x H) | | | |
| Europe | mm (in.) | 695 x 400 x 270 (27.4 x 15.7 x 10.6) | 695 x 400 x 270 (27.4 x 15.7 x 10.6) |
| US | mm (in.) | 755 x 400 x 290 (29.7 x 15.7 x 11.4) | 755 x 400 x 290 (29.7 x 15.7 x 11.4) |
| JPN / TWN | mm (in.) | 715 x 400 x 275 (28.1 x 15.7 x 10.8) | 715 x 400 x 275 (28.1 x 15.7 x 10.8) |
| Connection (inside thread) ⁴⁾ | | | |
| Intake | G or NPT | 1 1/4" | 1 1/4" |
| Exhaust | G or NPT | 1 1/4" | 1 1/4" |

¹⁾ To DIN 28 400 and following numbers

²⁾ Ordering Information, see next page

³⁾ Operated at the ultimate pressure without gas ballast, free-field measurement at a distance of 1 m (3.5 ft)

⁴⁾ Pumps with European and Japanese motors have G,
pumps with US (NEMA) motors have NPT

Ordering Information

SOGEVAC SV 100 B

50/60 Hz

| | Part No. |
|---|---------------------|
| SOGEVAC SV 100 B ¹⁾ with three-phase motor, without gas ballast, without oil filter 230/400 V, 50 Hz and 460 V, 60 Hz (CEI) | 960 500 |
| with three-phase motor, without gas ballast, with oil filter 230/400 V, 50 Hz and 460 V, 60 Hz (CEI) | 960 502 |
| with three-phase motor, with small gas ballast, without oil filter 230/400 V, 50 Hz and 460 V, 60 Hz (CEI) | 960 501 |
| 230/460 V, 60 Hz and 400 V, 50 Hz (NEMA) | 960 511 |
| 230/400 V, 50/60 Hz and 460 V, 60 Hz (CEI) | 960 521 |
| 200 V, 50/60 Hz (JIS) | 960 516 |
| with three-phase motor, with small gas ballast, with oil filter 230/400 V, 50 Hz and 460 V, 60 Hz (CEI) | 960 503 |
| 230/460 V, 60 Hz and 400 V, 50 Hz (NEMA) | 960 513 |
| 230/400 V, 50/60 Hz and 460 V, 60 Hz (CEI) | 960 523 |
| 200 V, 50/60 Hz (JIS) | 960 518 |
| with three-phase motor, with standard gas ballast, without oil filter 230/400 V, 50 Hz and 460 V, 60 Hz (CEI) | 960 505 |
| 230/460 V, 60 Hz and 400 V, 50 Hz (NEMA) | 960 512 |
| 230/400 V, 50/60 Hz and 460 V, 60 Hz (CEI) | 960 522 |
| 200 V, 50/60 Hz (JIS) | 960 517 |
| with three-phase motor, with standard gas ballast, with oil filter 230/400 V, 50 Hz and 460 V, 60 Hz (CEI) | 960 507 |
| 230/460 V, 60 Hz and 400 V, 50 Hz (NEMA) | 960 514 |
| 230/400 V, 50/60 Hz and 460 V, 60 Hz (CEI) | 960 524 |
| 200 V, 50/60 Hz (JIS) | 960 519 |
| Other voltages/frequencies ²⁾ | upon request |
| Filling with special oil ²⁾ | upon request |
| Accessories | |
| RUVAC adapter (WA/WS 251/501) | 971 448 740 |
| Exhaust filter cartridge AFE SV65/100B ³⁾ | 714 17 300 |
| Spare Parts | |
| Maintenance kit | 971 427 690 |
| Repair kit | 971 427 680 |
| Seal kit FPM (FKM) | 971 427 670 |
| Oil filter ⁴⁾ | 712 13 150 |
| Oil filter bypass | 712 30 570 |

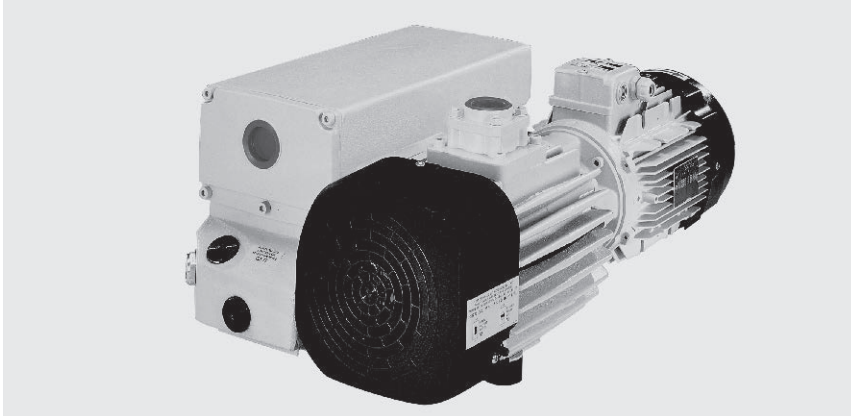
¹⁾ Pumps with European and Japanese motors have G, pumps with US voltages motors have NPT

²⁾ Please indicate when ordering a pump

³⁾ 2 cartridges needed per pump

⁴⁾ Not included in maintenance kit

SOGEVAC SV 120 B



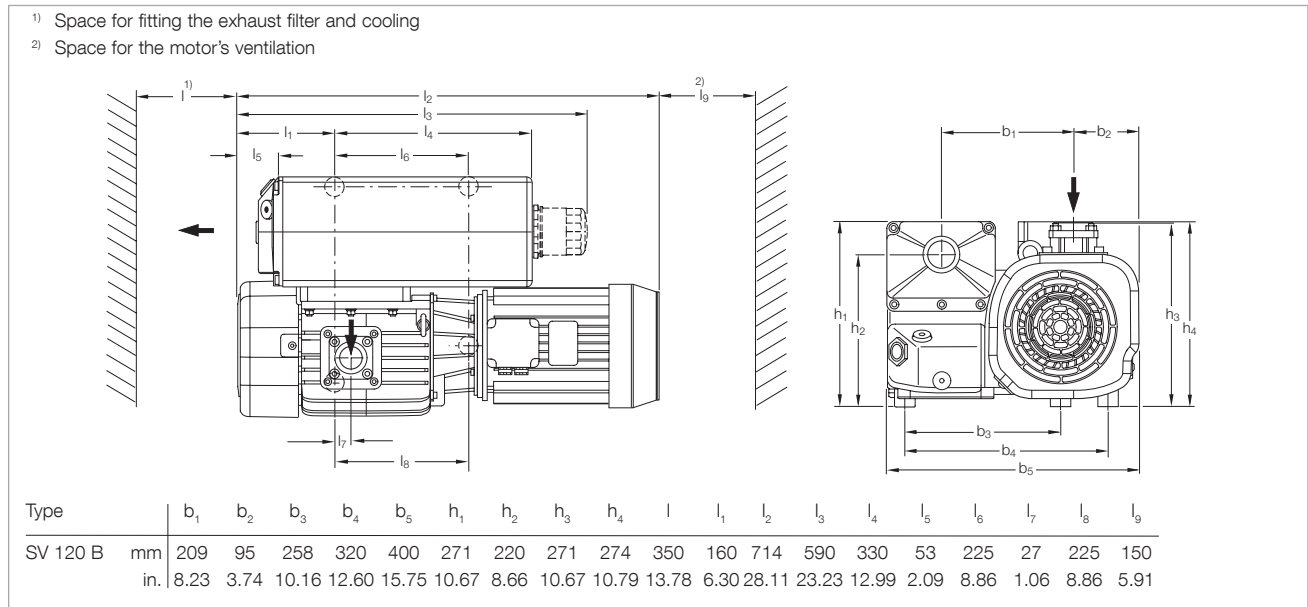
SOGEVAC SV 120 B

Advantages to the User

- Best effective pumping speed in this class
- Good pump temperature due to the cooling coil, ideal for harsh applications. Optimal oil life time thus reached
- Wide range motor as standard
- Optimized integrated lubrication without external pipes
- Integrated oil recovery system and anti suckback valve
- Low noise level

Typical Applications

- Oil purification
- Plastic & rubber injection presses
- Lamination
- ATEX and O₂ applications
- ... and more



Dimensional drawing for the SOGEVAC SV 120 B

Technical Data

SOGEVAC SV 120 B

| | | 50 Hz | 60 Hz |
|--|--|--|--|
| Nominal speed ¹ | m ³ x h ⁻¹ (cfm) | 130 (77) | 147 (86) |
| Pumping speed (according to PNEUROP) ¹ | m ³ x h ⁻¹ (cfm) | 110 (65) | 122 (72) |
| Ultimate total pressure without gas ballast ¹⁾ | mbar (Torr) | ≤ 0.5 (≤ 0.4) | ≤ 0.5 (≤ 0.4) |
| Ultimate total pressure ¹ with gas ballast ²⁾ | mbar (Torr) | ≤ 1.5 (≤ 1.1) | ≤ 1.5 (≤ 1.1) |
| Water vapor tolerance ¹⁾ with standard gas ballast ²⁾ | mbar (Torr) | 30.0 (22.5) | 30.0 (22.5) |
| Water vapor capacity with standard gas ballast ²⁾ | kg x h ⁻¹ (qt/hr) | 1.60 (1.69) | 1.70 (1.80) |
| Mean noise level (according to DIN 466535) ³⁾ | dB(A) | 61 | 64 |
| Admissible ambient temperature | °C (°F) | 12 to 40 (54 to 104) | 12 to 40 (54 to 104) |
| Motor power 3 ~ (with IEC Euro (NEMA) motor) | kW (hp) | 2.4 (3.3) | 3.2 (4.4) |
| Mains voltage and frequency 3 ~ motor | V | 220-230 and 380-400 V ± 10%, 50 Hz 230 and 400-460 V ± 10%, 60 Hz | 220-230 and 380-400 V ± 10%, 50 Hz 230 and 400-460 V ± 10%, 60 Hz |
| Rated rotational speed | min ⁻¹ (rpm) | 1500 (1500) | 1800 (1800) |
| Type of protection | IP | 55 | 55 |
| Isolation class 3 ~ motor | | F | F |
| Leak rate | mbar x l x s ⁻¹ | ≤ 1 x 10 ⁻³ | ≤ 1 x 10 ⁻³ |
| Materials (materials in contact with the gas) | | Steel, cast iron, Aluminium, Bronze, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper), Epoxy resin & Glass fibre | Steel, cast iron, Aluminium, Bronze, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper), Epoxy resin & Glass fibre |
| Oil capacity | l (qt) | 2.0 (2.1) | 2.0 (2.1) |
| Net weight (with oil filling) | kg (lbs) | 84 (185) | 84 (185) |
| Dimensions (L x W x H) | mm (in.) | 755 x 400 x 290 (29.7 x 15.7 x 11.4) | 755 x 400 x 290 (29.7 x 15.7 x 11.4) |
| Connection (inside thread) ⁴⁾ | | | |
| Intake | G or NPT | 1 1/4" | 1 1/4" |
| Exhaust | G or NPT | 1 1/4" | 1 1/4" |

¹⁾ To DIN 28 400 and following numbers

²⁾ Ordering Information see next page

³⁾ Operated at the ultimate pressure without gas ballast, free-field measurement at a distance of 1 m (3.5 ft)

⁴⁾ Pumps with European and Japanese motors have G, pumps with US (NEMA) motors have NPT

Ordering Information

SOGEVAC SV 120 B

50/60 Hz

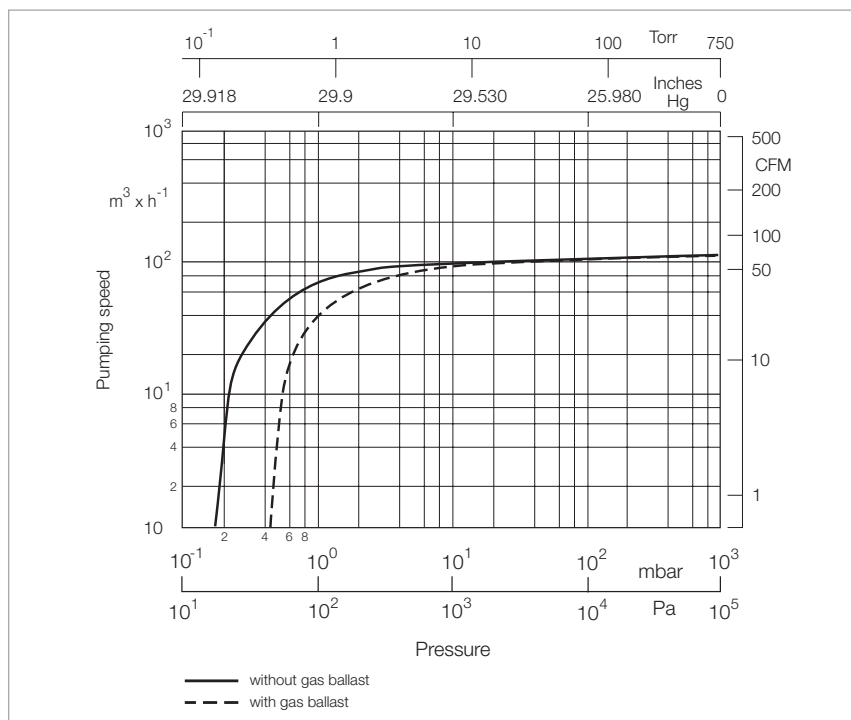
| | Part No. |
|--|---------------------------------|
| SOGEVAC SV 120 B ¹⁾ with three-phase motor 230/400 V ±10%, 50 Hz and 230/400/460 V ±10%, 60 Hz | |
| without gas ballast, without oil filter | 960 550 V (upon request) |
| with small gas ballast, without oil filter | 960 551 |
| without gas ballast, with oil filter | 960 552 V (upon request) |
| with small gas ballast, with oil filter | 960 553 |
| with standard gas ballast, without oil filter | 960 572 |
| with standard gas ballast, with oil filter | 960 557 |
| Other voltages/frequencies ²⁾ | upon request |
| Filling with special oil ²⁾ | upon request |
| Accessories | |
| RUVAC adapter (WA/WS 251/501) | 971 448 740 |
| Exhaust filter cartridge AFE SV65/100B ³⁾ | 714 17 300 |
| Spare Parts | |
| Maintenance kit | 971 427 690 |
| Repair kit | EK 971 445 151 |
| Oil filter ⁴⁾ | 712 13 150 |
| Oil filter bypass | 712 30 570 |

¹⁾ Pumps with European and Japanese motors have G, pumps with US voltages motors have NPT

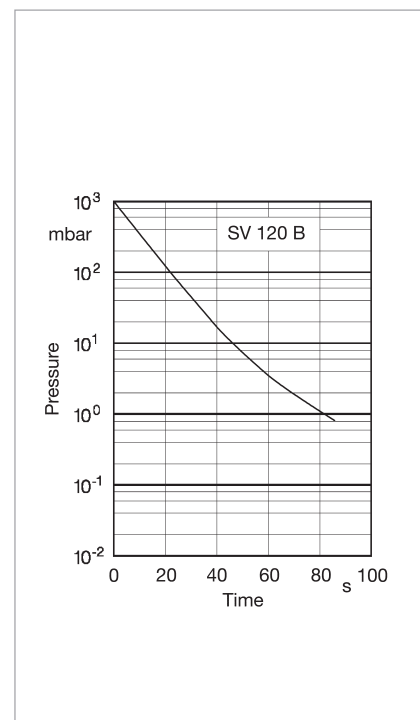
²⁾ Please indicate when ordering a pump

³⁾ 2 cartridges needed per pump

⁴⁾ Not included in maintenance kit



Pumping speed characteristics of the SOGEVAC SV 120 B at 50 Hz
(60 Hz curves at the end of the chapter)



Pump-down characteristics of a 300 l vessel
at 50 Hz

SOGEVAC SV 300 B



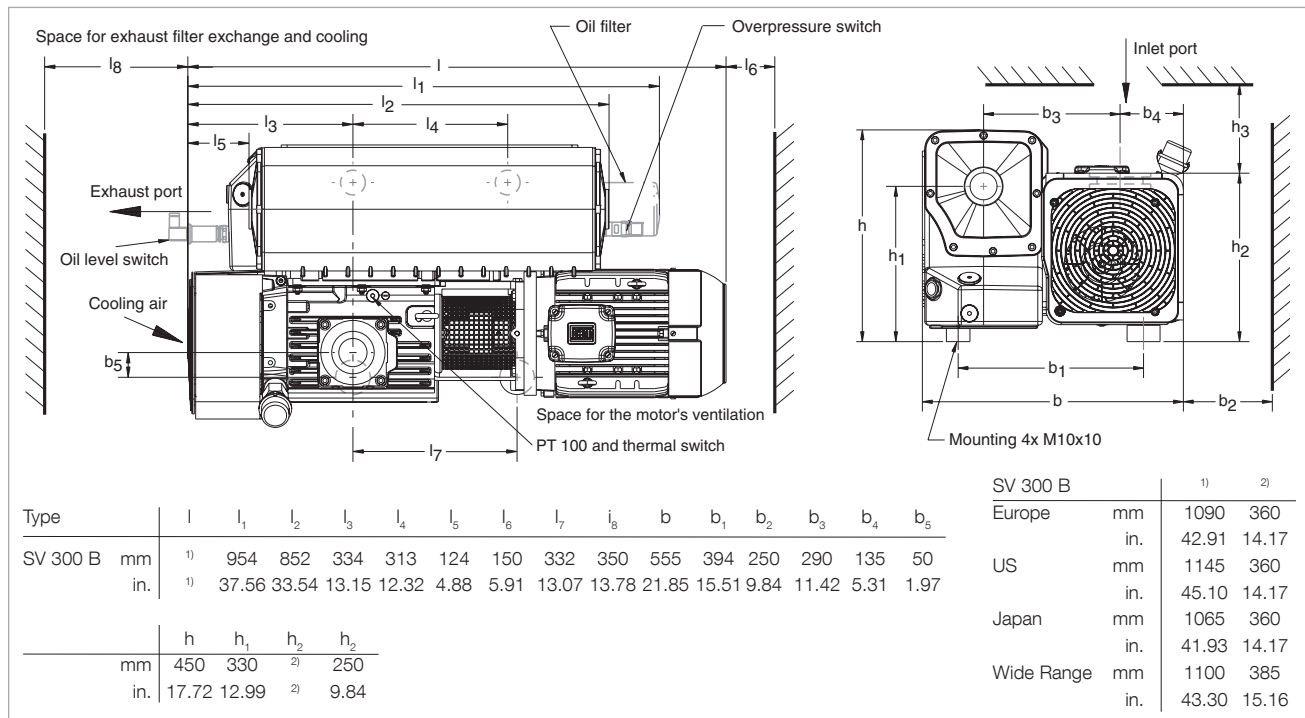
SOGEVAC SV 300 B

Advantages to the User

- Lowest pump temperature on the market: ideal for harsh applications. Optimal oil life time thus reached
- Integrated exhaust filters with low oil mist flow: long filter life time
- Optimized integrated lubrication without external pipes: yellow metal free as standard
- Integrated oil recovery system and anti-suckback valve
- Low noise level
- High reliability due to separate greased ball bearings (30.000 h life)
- Variant concept
- Best ultimate pressure
- Big oil volume for long oil life time

Typical Applications

- Coating systems and load locks
- Oil purification
- Plastic & rubber injection presses
- Heat treatment / Metallurgy
- Lamination
- ATEX and O₂ applications
- ... and more



Dimensional drawing for the SOGEVAC SV 300 B, European version

Technical Data
SOGEVAC SV 300 B

| | | 50 Hz | 60 Hz |
|---|--|---|---|
| Nominal speed ¹⁾ | m ³ x h ⁻¹ (cfm) | 280 (165) | 340 (200) |
| Pumping speed (according to PNEURO P) ¹⁾ | m ³ x h ⁻¹ (cfm) | 240 (141) | 290 (171) |
| Ultimate total pressure without gas ballast ¹⁾ | mbar (Torr) | ≤ 0.08 (≤ 0.06) | ≤ 0.08 (≤ 0.06) |
| Ultimate total pressure with small gas ballast 4 Nm ³ /h ¹⁾ | mbar (Torr) | ≤ 0.5 (≤ 0.4) | ≤ 0.5 (≤ 0.4) |
| Ultimate total pressure with standard gas ballast 7.5 Nm ³ /h also for electromagnetic gas ballast 10 Nm ³ /h ¹⁾ | mbar (Torr) | ≤ 0.7 (≤ 0.5) | ≤ 0.7 (≤ 0.5) |
| Ultimate total pressure with big gas ballast 15 Nm ³ /h ¹⁾ | mbar (Torr) | ≤ 2.0 (≤ 1.5) | ≤ 2.0 (≤ 1.5) |
| Ultimate total pressure with 2 big gas ballasts 28 Nm ³ /h ¹⁾ | mbar (Torr) | ≤ 3.0 (≤ 2.3) | ≤ 3.0 (≤ 2.3) |
| Water vapor tolerance with small ballast 4 Nm ³ /h | mbar (Torr) | 4 (3) with turbine 220 mm | 5 (4) with turbine 220 mm |
| Water vapor capacity with small ballast 4 Nm ³ /h | kg x h ⁻¹ (qt/hr) | 0.4 (0.4) with turbine 220 mm | 0.6 (0.6) with turbine 220 mm |
| Water vapor tolerance with standard gas ballast 7.5 Nm ³ /h also for electromagnetic gas ballast 10 Nm ³ /h ²⁾ | mbar (Torr) | 10.0 (7.5) with turbine 220 mm 40.0 (30.0) with turbine 150 mm ⁶⁾ | 12.0 (9.0) with turbine 220 mm 50.0 (37.5) with turbine 150 mm ⁶⁾ |
| Water vapor capacity with standard gas ballast 7.5 Nm ³ /h also for electromagnetic gas ballast 10 Nm ³ /h | kg x h ⁻¹ (qt/hr) | 1.3 (1.4) with turbine 220 mm 6.0 (6.4) with turbine 150 mm ⁶⁾ | 1.8 (1.9) with turbine 220 mm 8.0 (8.5) with turbine 150 mm ⁶⁾ |
| Water vapor tolerance with big gas ballast 15 Nm ³ /h ²⁾ | mbar (Torr) | 70.0 (52.5) with turbine 150 mm ⁶⁾ | 70.0 (52.5) with turbine 150 mm ⁶⁾ |
| Water vapor capacity with big gas ballast 15 Nm ³ /h ²⁾ | kg x h ⁻¹ (qt/hr) | 11 (12) with turbine 150 mm ⁶⁾ | 14 (15) with turbine 150 mm ⁶⁾ |
| Water vapor tolerance with 2 big gas ballasts 28 Nm ³ /h ²⁾ | mbar (Torr) | 95 (72) with turbine 150 mm ⁶⁾ | 95 (72) with turbine 150 mm ⁶⁾ |
| Water vapor capacity with 2 big gas ballasts 28 Nm ³ /h ²⁾ | kg x h ⁻¹ (qt/hr) | 15 (16) with turbine 150 mm ⁶⁾ | 17 (18) with turbine 150 mm ⁶⁾ |
| Noise level (according to DIN 466535) ³⁾ | dB(A) | 72 | 76 |
| Admissible ambient temperature | °C (°F) | 12 to 40 (54 to 104) | 12 to 40 (54 to 104) |
| Motor power 3 ~ (with IEC Euro motor) ⁴⁾ | kW (hp) | 5.5 (7.5) | 6.3 (8.6) |
| Mains voltage and frequency 3 ~ motor | V | see Ordering Information | see Ordering Information |
| Nominal speed | min ⁻¹ (rpm) | 1500 (1500) | 1800 (1800) |
| Type of protection | IP | 55 | 55 |
| Isolation class 3 ~ motor | | F | F |
| Leak rate | mbar x l x s ⁻¹ | ≤ 1 x 10 ⁻³ | ≤ 1 x 10 ⁻³ |
| Oil capacity, min. / max. | l (qt) | 8.5 (9.0) / 11.5 (12.2) | 8.5 (9.0) / 11.5 (12.2) |
| Net weight (with oil filling) dependant on the motor | kg (lbs) | 200 (430) | 225 (497) |
| Connections ⁵⁾ | | | |
| Intake, Thread | G or NPT | 2" | 2" |
| Exhaust, Thread | G or NPT | 2" | 2" |

¹⁾ To DIN 28 400 and following numbers

²⁾ Ordering Information see Chapter "Accessories"

³⁾ Operated at the ultimate pressure without gas ballast, free-field measurement at a distance of 1 m (3.5 ft)

⁴⁾ Versions with NEMA motor have 10 hp motors

⁵⁾ Pumps with European and Japanese motors have G, pumps with US (NEMA) motors have NPT

⁶⁾ Standard turbine 220 mm. Special turbine 150 mm can be retrofitted

Ordering Information

SOGEVAC SV 300 B

50/60 Hz

| | Part No. |
|---|---------------------------------|
| SOGEVAC SV 300 B ¹⁾ with oil filter with three-phase motor, without gas ballast, 230/400 V ± 10%, 50 Hz and 460 V ± 10%, 60 Hz (CEI) ²⁾ | 960 700 |
| with small gas ballast, 230/400 V ± 10%, 50 Hz and 460 V ± 10%, 60 Hz (CEI) ²⁾ | 960 701 |
| 208 V ± 10%, 230/460 V ± 10%, 60 Hz and 400 V ± 10%, 50 Hz (NEMA) ²⁾ | 960 706 |
| 200 V + 10% - 15%, 50/60 Hz (JIS) ¹⁾ | 960 711 V |
| with standard gas ballast, 230/400 V ± 10%, 50 Hz and 460 V ± 10%, 60 Hz (CEI) ²⁾ | 960 702 |
| 208 V ± 10%, 230/460 V ± 10%, 60 Hz and 400 V ± 10%, 50 Hz (NEMA) ²⁾ | 960 707 |
| 200 V + 10% - 15%, 50/60 Hz (JIS) ¹⁾ | 960 712 |
| with big gas ballast, 230/400 V ± 10%, 50 Hz and 460 V ± 10%, 60 Hz (CEI) ²⁾ | 960 703 ³⁾ |
| 208 V ± 10%, 230/460 V ± 10%, 60 Hz and 400 V ± 10%, 50 Hz (NEMA) ²⁾ | 960 708 ³⁾ |
| 200 V + 10% - 15%, 50/60 Hz (JIS) ¹⁾ | 960 713 V ³⁾ |
| with Wide range motor, 200 V - 15% to 230 V + 10% / 380 to 400 V ± 10%, 50 Hz, CTP; 5.5 kW & 200 V - 15% to 230 V + 10% / 380 to 400 V ± 10% and 460 V ± 10%, 60 Hz, CTP; 6.6 kW | |
| with small gas ballast | 960 716 V ⁴⁾ |
| with standard gas ballast | 960 717 ⁴⁾ |
| with big gas ballast | 960 718 ^{3, 4)} |

¹⁾ Pumps with European and Japanese motors have G, pumps with US (NEMA) have NPT

²⁾ IEC motor (Europe) 50/60 Hz have IP 55, NEMA motor have TEFC

³⁾ With small 150 mm turbine

⁴⁾ F and P inlet

Full option oil box with connections (bores and plugs) for

- G 3/8" for external oil filtration

- oil level sensor (vibration)

- thermostatic valve

- temperature sensor Pt100 and switch

Note: Further pump options upon request (for example, water cooled pumps)

Ordering Information

SOGEVAC SV 300 B

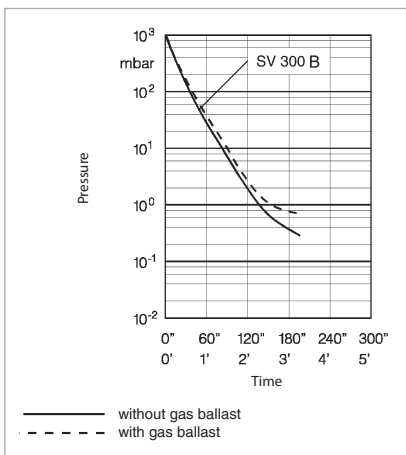
50/60 Hz

| | Part No. |
|--|---|
| Accessories | |
| Adaptor for Roots pump ^{1), 2)} RUVAC 501 (BR 2) RUVAC 1001 (BR 2) | 971 463 880 971 463 890 |
| Mounting pedestal for fitting to a Roots pump | 971 456 590 |
| Oil level monitor ^{1), 3)} (several types are available) | 712 21 992V or 971 458 110 (yellow metal free) |
| Thermal switch (105 °C) ^{2), 3)} | 971 463 930 |
| Pt100 sensor ²⁾ | 971 464 020 |
| Exhaust filter gauge, mechanical ^{1), 2)} | 951 94 |
| Exhaust filter monitoring switch, electric ^{1), 3)} | 712 22 360 |
| Manual gas ballast kit ²⁾ (incl. small, standard and big) | 971 464 130 |
| Gas ballast valve, electromagnetic 24 V DC ^{1), 2)} with end plate without end plate | 971 465 380 971 465 680 |
| Two gas ballast valves ¹⁾ | upon request |
| Water cooling with thermostatic valve only with all option oil casing ³⁾ | EK 971 449 111 |
| Oil filter bypass ^{1), 2)} | 712 30 570 |
| Spare Parts | |
| Oil filter | 710 18 850 |
| Exhaust filter cartridge (3x required) AFE SV 300 B - SV 750 B | 971 431 120 |
| Vanes (set of 3 pieces) | 971 446 880 |
| Set of gaskets FPM (FKM) (standard) | 971 464 950 |
| Repair kit | 971 464 960 |
| Maintenance kit | 971 464 970 |
| Generator kit G 2" NPT 2" | 971 447 390 971 458 970 |
| Turbine 150 mm kit ^{2), 3)} | EK 650 3 195 |

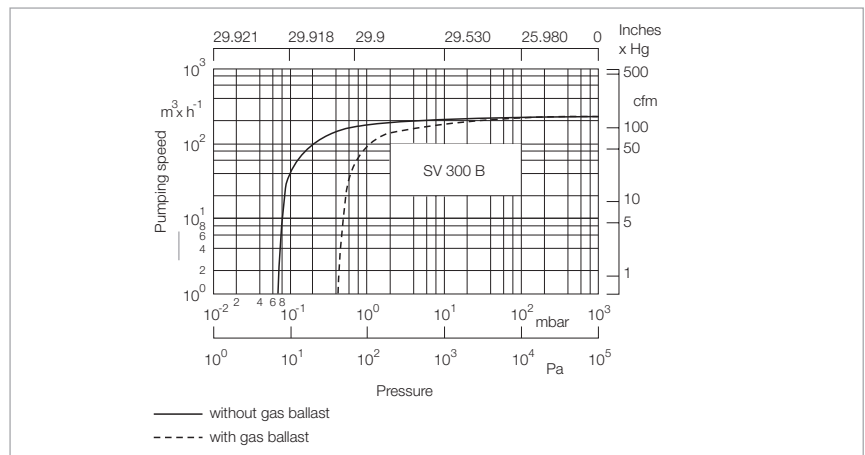
¹⁾ Please indicate when ordering a pump

²⁾ Can be retrofitted

³⁾ Can be retrofitted by LV Service



Pump-down characteristics of a 1000 l vessel at 50 Hz



Pumping speed characteristics of the SOGEVAC SV 300 B at 50 Hz (60 Hz curves at the end of the chapter)

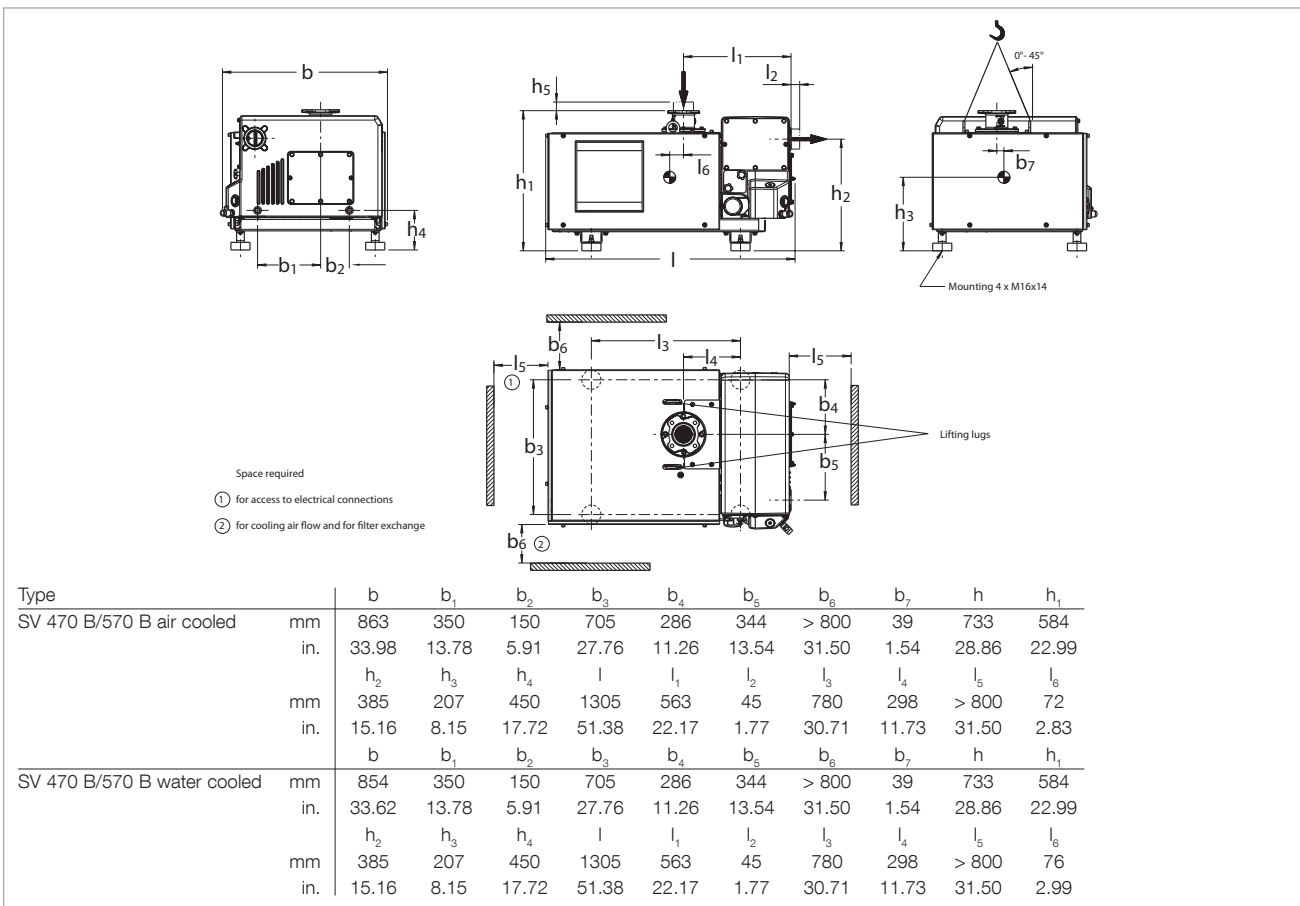
SOGEVAC SV 470 B(F) and SV 570 B(F)



SOGEVAC SV 470 B and 570 B

Advantages to the User

- Very low rotational speed increases the lifetime of the pump and leads to noise level reduction
- Extremely low noise level in any working conditions
- Reduced number of oil pipes
- Reduced operational costs
- Long lifetime of oil and exhaust filters
- Simplified maintenance thanks to an easy access to all key components
- Small size
- Air or water-cooling and many motors and options available
- Competitive price-to-performance ratio
- Adaptors for direct mounting of Roots pumps (RUVAC WH 700 to 2500)
- ATTEX IIC T3 Cat. 3 version internal/external possible
- PFPE versions available



Dimensional drawing for the SOGEVAC SV 470 B and 570 B

Technical Data**SOGEVAC SV 470 B(F)****SOGEVAC SV 570 B(F)**

| | | | 50 Hz | 60 Hz | 50 Hz |
|---|--|----------|--|--|--|
| Nominal speed ¹⁾ | $\text{m}^3 \times \text{h}^{-1}$ (cfm) | | 470 (277) | 570 (366) | 570 (366) |
| Pumping speed ¹⁾ | $\text{m}^3 \times \text{h}^{-1}$ (cfm) | | 400 (236) | 470 (277) | 470 (277) |
| Ultimate total pressure without gas ballast ¹⁾ | mbar (Torr) | | 0.08 (0.06) | 0.08 (0.06) | 0.08 (0.06) |
| Ultimate total pressure with | | | | | |
| 1 gas ballast ¹⁾ | mbar (Torr) | | 0.7 (0.5) | 0.7 (0.5) | 0.7 (0.5) |
| 2 gas ballast valves ¹⁾ | mbar (Torr) | | 2.0 (1.5) | 2.0 (1.5) | 2.0 (1.5) |
| Water vapor tolerance | | | | | |
| 1 gas ballast ^{1), 2)} | mbar (Torr) | | 15.0 (11.0) | 20.0 (15.0) | 20.0 (15.0) |
| 2 gas ballast valves ^{1), 2)} | mbar (Torr) | | 40.0 (30.0) | 50.0 (38.0) | 20.0 (15.0) |
| Max. perm. water vapor capacity | | | | | |
| 1 gas ballast ^{1), 2)} | $\text{kg} \times \text{h}^{-1}$ (qt/hr) | | 5.0 (5.3) | 7.5 (8.0) | 7.5 (8.0) |
| 2 gas ballast valves ^{1), 2)} | $\text{kg} \times \text{h}^{-1}$ (qt/hr) | | 13.0 (14.0) | 17.0 (18.0) | 17.0 (14.0) |
| Oil filling, min. / max. | l (qt) | | 20 / 21 | 20 / 21 | 20 / 21 |
| Noise level (averaged) ³⁾ | dB(A) | | 72 | 75 (72 for BF pumps) | 75 (72 for BF pumps) |
| Admissible ambient temperature | °C (°F) | | 12 to 40 (54 to 104) | 12 to 40 (54 to 104) | 12 to 40 (54 to 104) |
| Nominal motor speed | min^{-1} (rpm) | | 820 (820) | 1000 (1000) | 1000 (1000) |
| Type of protection / Isolation | IP / - | | 54 / F | 54 / F | 54 / F |
| Cooling | | | Air (Water at BF variants) | Air (Water at BF variants) | Air (Water at BF variants) |
| Temperature protection | | | | | |
| Pump | | | yes | yes | yes |
| Motor PTC | | | yes | yes | yes |
| Water quality | TH | | (4 to 8 at BF variants) | (4 to 8 at BF variants) | (4 to 8 at BF variants) |
| Water pressure, min. / max. | bar (psig) | | (2 / 8 at BF variants) | (2 / 8 at BF variants) | (2 / 8 at BF variants) |
| Materials (materials in contact with the gas) | | | Steel, cast iron, Aluminium, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper), Epoxy resin & Glass fibre | Steel, cast iron, Aluminium, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper), Epoxy resin & Glass fibre | Steel, cast iron, Aluminium, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper), Epoxy resin & Glass fibre |
| Dimensions (L x W x H) | mm (in.) | | 1305 x 863 x 733 ⁴⁾ (51.38 x 33.98 x 28.86) | 1305 x 863 x 733 ⁴⁾ (51.38 x 33.98 x 28.86) | 1305 x 863 x 733 ⁴⁾ (51.38 x 33.98 x 28.86) |
| Connection | | | | | |
| Intake side | Europe / US | G or NPT | 3" | 3" | 3" |
| Pressure side | Europe / US | G or NPT | 3" | 3" | 3" |

¹⁾ To DIN 28 400 and following numbers, with standard gas ballast

²⁾ Please ask Leybold for more information about water cooled pumps

³⁾ Operated at the ultimate pressure without gas ballast, free-field measurement at a distance of 1 m (3.5 ft)

⁴⁾ With G 3" flanges. NPT 3" flanges add. 45 mm (1.8 in.) on pump length and height

Additional Technical Data

Air Cooling

SOGEVAC SV 470 B(F)

SOGEVAC SV 570 B(F)

50 Hz

60 Hz

50 Hz

60 Hz

| | | | | | |
|--|------------------------------|-------------|-------------|-------------|-------------|
| Water vapor tolerance with | | | | | |
| 1 gas ballast ^{1), 2)} | mbar (Torr) | 15 (11) | 20 (15) | 20 (15) | 20 (15) |
| 2 gas ballast valves ^{1), 2)} | mbar (Torr) | 40 (30) | 50 (37.5) | 70 (52.5) | 50 (37.5) |
| Max. perm. water vapor capacity with | | | | | |
| 1 gas ballast ^{1), 2)} | kg x h ⁻¹ (qt/hr) | 5.0 (5.3) | 7.5 (8.0) | 7.5 (8.0) | 7.5 (8.0) |
| 2 gas ballast valves ^{1), 2)} | kg x h ⁻¹ (qt/hr) | 13.0 (13.8) | 17.0 (18.0) | 20.0 (21.2) | 17.0 (14.0) |
| Mean noise level ³⁾ | dB(A) | 72 | 75 | 75 | 75 |

¹⁾ To DIN 28 400 and following numbers, with standard gas ballast

²⁾ Please ask Leybold for more information

³⁾ Operated at the ultimate pressure without gas ballast, free-field measurement at a distance of 1 m (3.5 ft)

Additional Technical Data

Water Cooling

SOGEVAC SV 470 B(F)

SOGEVAC SV 570 B(F)

50 Hz

60 Hz

50 Hz

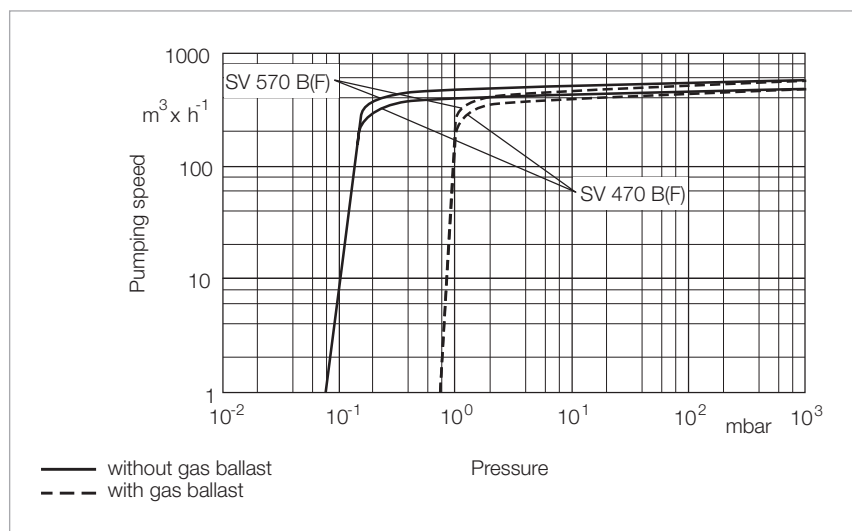
60 Hz

| | | | | | |
|--|------------------------------|------------------|------------------|------------------|------------------|
| Water vapor tolerance with | | | | | |
| 1 gas ballast ^{1), 2)} | mbar (Torr) | 15 (11) | 20 (15) | 20 (15) | 20 (15) |
| 2 gas ballast valves ^{1), 2)} | mbar (Torr) | 35 (26) | 40 (30) | 40 (30) | 40 (30) |
| Max. perm. water vapor capacity with | | | | | |
| 1 gas ballast ^{1), 2)} | kg x h ⁻¹ (qt/hr) | 5.0 (5.3) | 7.5 (8.0) | 7.5 (8.0) | 7.5 (8.0) |
| 2 gas ballast valves ^{1), 2)} | kg x h ⁻¹ (qt/hr) | 11.0 (11.7) | 13.0 (13.8) | 13.0 (13.8) | 13.0 (13.8) |
| Mean noise level ³⁾ | dB(A) | 72 | 72 | 72 | 72 |
| Thermostatic valve | | Pos 3 | Pos 3 | Pos 3 | Pos 3 |
| Water quality | TH (°F) | 4-8 | 4-8 | 4-8 | 4-8 |
| Water pressure, min. / max. | bar (psi) | 2 / 8 (29 / 114) | 2 / 8 (29 / 114) | 2 / 8 (29 / 114) | 2 / 8 (29 / 114) |
| Min. water flow for 10 °C (50 °F) water warming | l/h | 700 | 800 | 800 | 800 |

¹⁾ To DIN 28 400 and following numbers, with standard gas ballast

²⁾ Please ask Leybold for more information

³⁾ Operated at the ultimate pressure without gas ballast, free-field measurement at a distance of 1 m (3.5 ft)



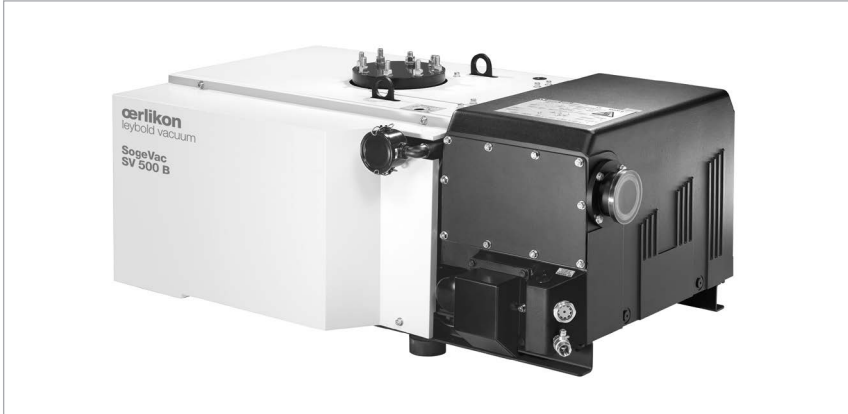
Pumping speed characteristics of the SOGEVAC SV 470 B(F) and 570 B(F) at 50 Hz operation (60 Hz curves at the end of the chapter)

Ordering Information

SOGEVAC

| | SV 470 B | SV 470 BF | SV 570 B | SV 570 BF |
|---|--------------|--------------|--------------|--------------|
| | Part No. | Part No. | Part No. | Part No. |
| SOGEVAC SV ... B | | | | |
| Three-phase Europe motor 230 V / 400 V, 50 Hz and 460 V, 60 Hz | 960 753V | 960 757V | - | - |
| Three-phase USA motor 230 V / 460 V, 60 Hz and 400 V, 50 Hz UL/CSA with terminal board | - | - | 960 765V | 960 767V |
| Three-phase world motor 230 V / 400 V, 50 + 60 Hz / 460 V, 60 Hz | 960 754V | 960 758V | 960 766V | 960 768V |
| NEMA Premium-Version 400 V ±10%, 50 Hz, 15 hp / 200-230 V ±10%, 60 Hz; 460 V ±10%, 60 Hz, 15 hp with terminal board | - | - | 960 755V | 960 759V |
| Accessories | | | | |
| Adapter for Roots pump | | | | |
| RUVAC 700 | 9516 241V | 9516 241V | 9516 241V | 9516 241V |
| RUVAC 1001 | 9516 242V | 9516 242V | 9516 242V | 9516 242V |
| RUVAC 2001 | 9516 243V | 9516 243V | 9516 243V | 9516 243V |
| RUVAC WHU 2500 | 9516 244V | 9516 244V | 9516 244V | 9516 244V |
| Oil drain valve | Standard | Standard | Standard | Standard |
| EM gas ballast kit, 24 V DC | 971 438 170 | 971 438 170 | 971 438 170 | 971 438 170 |
| Gas ballast standard | | | | |
| manual | 9516 232V | 9516 232V | 9516 232V | 9516 232V |
| permanent | 9516 233V | 9516 233V | 9516 233V | 9516 233V |
| 2nd gas ballast valve | | | | |
| EM, 24 V DC | 9516 234V | 9516 234V | 9516 234V | 9516 234V |
| manual | 9516 235V | 9516 235V | 9516 235V | 9516 235V |
| Exhaust filter monitoring gauge | 951 94 | 951 94 | 951 94 | 951 94 |
| Oil level check | 9516 252V | 9516 252V | 9516 252V | 9516 252V |
| Temperature switch | Standard | Standard | Standard | Standard |
| Water cooling with thermostatic valve | Upon request | Upon request | Upon request | Upon request |
| Exhaust filter overpressure switch | 712 22 360 | 712 22 360 | 712 22 360 | 712 22 360 |
| Oil filter bypass | 712 36 390 | 712 36 390 | 712 36 390 | 712 36 390 |
| Spare Parts | | | | |
| Oil filter, standard | 714 05 310 | 714 05 310 | 714 05 310 | 714 05 310 |
| Exhaust filter AFE SV630/SV750B/SV300B (5 pieces are required) | 971 431 120 | 971 431 120 | 971 431 120 | 971 431 120 |
| Intake filter element | | | | |
| Paper | 710 35 242 | 710 35 242 | 710 35 242 | 710 35 242 |
| Metal | E 710 37 734 | E 710 37 734 | E 710 37 734 | E 710 37 734 |
| Activated charcoal | 710 37 724 | 710 37 724 | 710 37 724 | 710 37 724 |
| Polyester | 712 61 508 | 712 61 508 | 712 61 508 | 712 61 508 |
| Seal kit FPM (FKM) | EK971474010 | EK971474010 | EK971474010 | EK971474010 |
| Repair kit, complete | EK971474020 | EK971474020 | EK971474020 | EK971474020 |
| Generator kit | EK6700666 | EK6700666 | EK6700666 | EK6700666 |
| Maintenance kit | EK971474000 | EK971474000 | EK971474000 | EK971474000 |

SOGEVAC SV 500 B



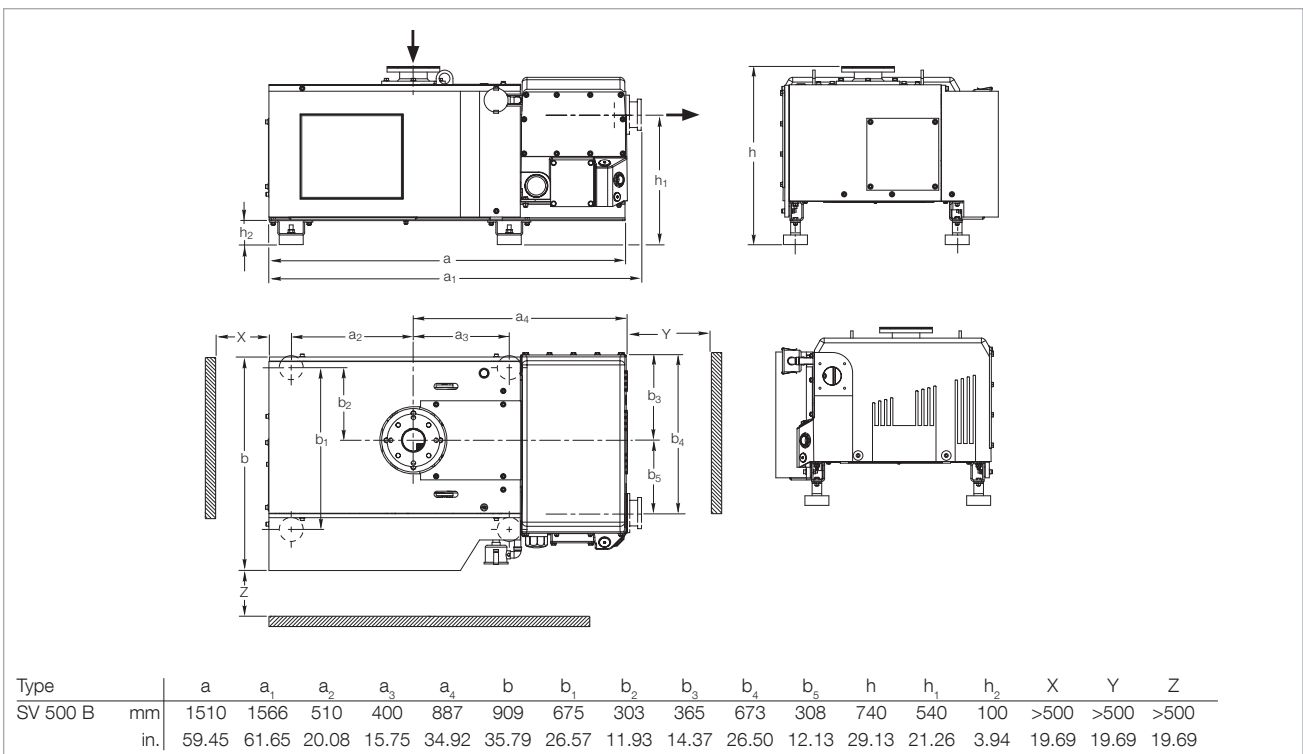
SOGEVAC SV 500 B

Advantages to the User

- Low pump temperature: ideal for harsh applications. Optimal oil life time thus reached
- Low generator rotational speed
- Integrated exhaust filters with low oil mist flow: long filter life time
- Optimized integrated lubrication without external pipes: yellow metal free as standard
- Integrated oil recovery system and anti-suckback valve
- Low noise level
- High reliability due to separate greased ball bearings (30.000 h life)
- Best ultimate pressure
- Big oil volume for long oil life time

Typical Applications

- Heat treatment / Metallurgy
- ATEX applications
- ... and more



Dimensional drawing for the SOGEVAC SV 500 B

Technical Data

SOGEVAC SV 500 B

| | | 50 Hz | 60 Hz |
|---|--|----------------------------|----------------------------|
| Nominal speed ¹⁾ | m ³ x h ⁻¹ (cfm) | 570 (336) | 570 (336) ³⁾ |
| Pumping speed (according to PNEUROP) ¹⁾ | m ³ x h ⁻¹ (cfm) | 520 (306) | 520 (306) ³⁾ |
| Ultimate total pressure ¹⁾ without gas ballast | mbar (Torr) | ≤ 0.08 (≤ 0.06) | ≤ 0.08 (≤ 0.06) |
| Ultimate total pressure with 1 gas ballast | mbar (Torr) | ≤ 0.7 (≤ 0.5) | ≤ 0.7 (≤ 0.5) |
| Water vapor tolerance with 1 gas ballast | mbar (Torr) | 40.0 (30.0) | 40.0 (30.0) |
| Water vapor capacity with 1 gas ballast | kg x h ⁻¹ (qt/hr) | 13.0 (14.0) | 13.0 (14.0) |
| Noise level (according to DIN 466535) ²⁾ | | | |
| Air | dB(A) | 70 | 70 |
| water | dB(A) | 68 | 68 |
| Motor power 3-ph. (with IEC Euro motor) | kW (hp) | see Ordering Information | see Ordering Information |
| Mains voltage and mains frequency for 3-ph. motor | V | see Ordering Information | see Ordering Information |
| Nominal speed | min ⁻¹ (rpm) | 630 | 630 |
| Type of protection | IP | 54 | 54 |
| Isolations class 3-ph. motor | | F | F |
| Leak rate | mbar x l x s ⁻¹ | ≤ 1 x 10 ⁻³ | ≤ 1 x 10 ⁻³ |
| Oil capacity, min. / max. | l (qt) | 20 (21) / 23 (24) | 20 (21) / 23 (24) |
| Weight, net. (with oil filling) depending on the type of motor | kg (lbs) | 680 (1501) | 730 (1611) |
| Cooling | | Air (water ⁴⁾) | Air (water ⁴⁾) |
| Connections | | | |
| Intake | DN | see Ordering Information | see Ordering Information |
| Exhaust | DN | see Ordering Information | see Ordering Information |
| Gas ballast | Number / base type | 1 + (1 option) / manual | 1 + (1 option) / manual |

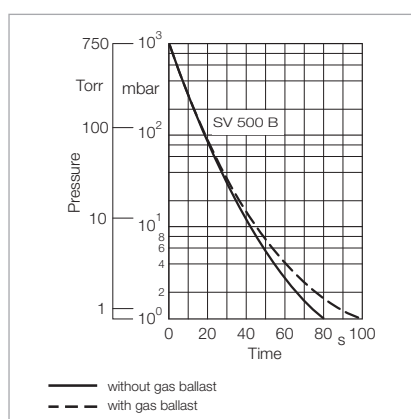
¹⁾ To DIN 28 400 and following numbers

²⁾ Operated at the ultimate pressure without gas ballast, free-field measurement at a distance of 1 m (3.5 ft)

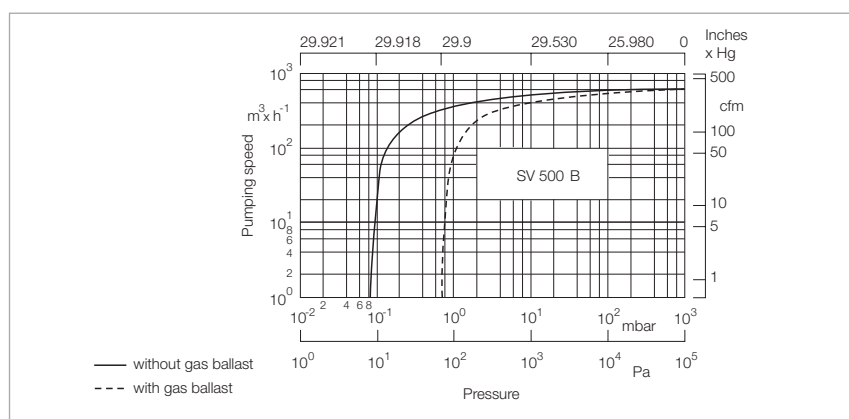
³⁾ Valid NEMA variants. Values for Japan (JIS motors) upon request

⁴⁾ Option

Note: Further pump options upon request (for example, water cooled pumps)



Pump-down characteristics of a 1000 l vessel at 50 Hz



Pumping speed characteristics of the SOGEVAC SV 500 B at 50 Hz (60 Hz curves at the end of the chapter)

Ordering Information

SOGEVAC SV 500 B

50/60 Hz

| | Part No. |
|--|---------------------|
| SOGEVAC SV 500 B ¹⁾ air cooled, without oil filter, with thermal switch (pump) with 3 phase motor (Japan), JIS motor with PTC sensors 200 V + 10% - 15%, 50/60 Hz, 15 kW Inlet: DN 100 PN / DN 100 ISO-K Exhaust: DN 100 ISO-K | 960 852 V |
| with 3 phase motor (Europe), IEC motor with PTC sensors 380 V ± 5% / 400 V ± 10% / 690 V ± 10%/ 415 V ± 5%, 50 Hz, 11 kW 50 Hz operation only Inlet: DN 100 PN / DN 100 ISO-K Exhaust: DN 100 ISO-K | 960 853 V |
| with 3 phase motor (US), NEMA motor with PTC sensors 400 V ± 10%, 50 Hz, 15 hp / 230 V ± 10% / 460 V ± 10%, 60 Hz, 15 hp Inlet: 4" ASA 150 / DN 100 ISO-K Exhaust: 4" ASA 150 / DN 100 ISO-K | 960 855 V |
| water cooled, without oil filter, with thermal switch (pump) with 3 phase motor (Japan), JIS motor with PTC sensors 200 V + 10% - 15%, 50/60 Hz, 15 kW Inlet: DN 100 PN / DN 100 ISO-K Exhaust: DN 100 ISO-K | 960 856 V |
| with 3 phase motor (Europe), IEC motor with PTC sensors 380 V ± 5% / 400 V ± 10% / 690 V ± 10%/ 415 V ± 5%, 50 Hz, 11 kW 50 Hz operation only Inlet: DN 100 PN / DN 100 ISO-K Exhaust: DN 100 ISO-K | 960 857 V |
| with 3 phase motor (US), NEMA motor with PTC sensors 400 V ± 10%, 50 Hz, 15 hp / 230 V ± 10% / 460 V ± 10%, 60 Hz, 15 hp Inlet: 4" ASA 150 / DN 100 ISO-K Exhaust: 4" ASA 150 / DN 100 ISO-K | 960 859 V |
| Other voltages/frequencies ²⁾ | upon request |
| Filling with special oil ²⁾ | upon request |

¹⁾ Junction box with six terminals for star/delta circuit

²⁾ Please indicate when ordering a pump

Note: Further pump options upon request (for example, water cooled pumps)

Ordering Information

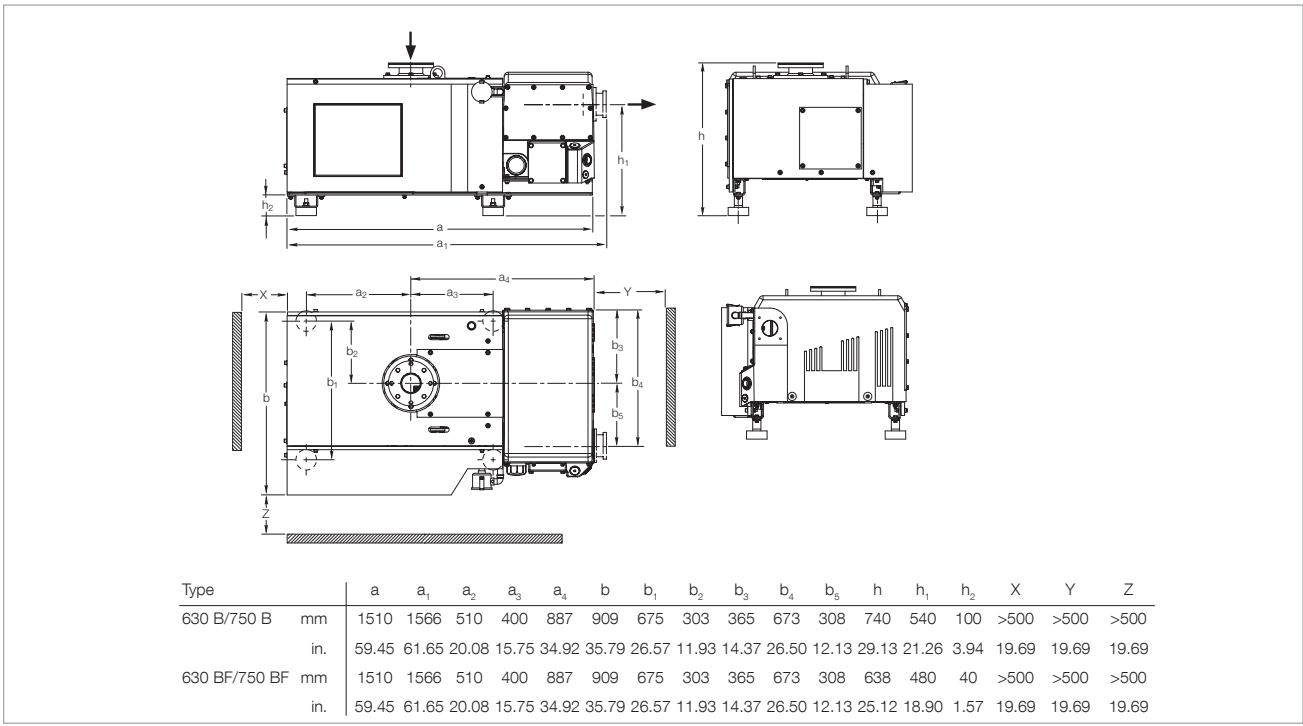
SOGEVAC SV 500 B 50/60 Hz

| | Part No. |
|--|---------------------|
| Accessories | |
| Adapter for Roots pump | |
| RUVAC 1001 | 971 432 340 |
| RUVAC 2001 | 971 432 350 |
| Oil drain valve | 711 30 114 |
| Gas ballast kit electromagnetic, 24 V DC | 971 438 170 |
| Gas ballast, standard manual | 971 446 490 |
| 2nd gas ballast valve | |
| electromagnetic, 24 V DC | 971 438 160 |
| manual | 971 438 340 |
| Exhaust filter monitoring gauge | 951 94 |
| Oil level check | 971 425 760 |
| Temperature switch | standard |
| Water cooling with thermostatic valve | upon request |
| Intake kit DN 100 ISO-K | standard |
| Exhaust filter overpressure switch | 712 22 360 |
| Oil filter bypass | 712 36 390 |
| Spare Parts | |
| Oil filter, standard | 714 05 310 |
| Exhaust filter AFE SV630/SV750B/SV300B (6 are required) | 971 431 120 |
| Intake filter element | |
| Paper | 710 35 242 |
| Metal | E 710 37 734 |
| Activated charcoal | 710 37 724 |
| Polyester | 712 61 508 |
| Seal kit FPM (FKM) | 971 437 310 |
| Repair kit, complete | 971 437 320 |
| Generator kit | 971 437 330 |
| Maintenance kit | 971 437 340 |

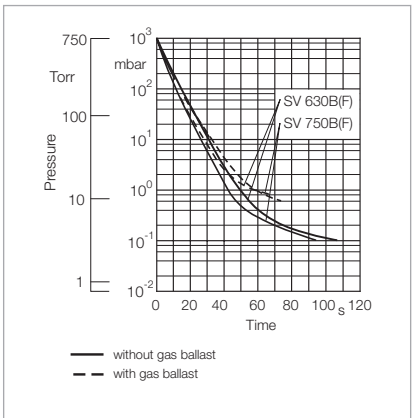
SOGEVAC SV 630 B/630 BF/750 B/750 BF



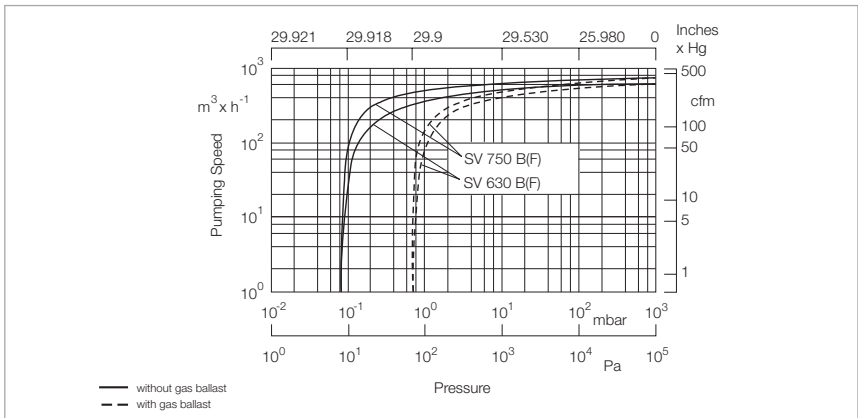
SOGEVAC SV 630 B



Dimensional drawing for the SOGEVAC SV 630 B, SV 630 BF, 750 B and 750 BF



Pumpdown curve for a 1000 l vessel for 50 Hz pump operation



Pumping speed characteristics of the SOGEVAC SV 630 B(F) and 750 B(F) (60 Hz curves at the end of the chapter)

Technical Data
SOGEVAC SV 630 B
SOGEVAC SV 630 BF
SOGEVAC SV 750 B/BF

| | | | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz |
|--|--|----|---|---|---|---|---|
| Nominal speed ¹⁾ | m ³ x h ⁻¹ (cfm) | | 700 (412.0) | 840 (494.4) | 700 (412.0) | 840 (494.4) | 840 (494.4) |
| Pumping speed ¹⁾ | m ³ x h ⁻¹ (cfm) | | 640 (376.7) | 755 (444.4) | 640 (376.7) | 755 (444.4) | 755 (444.4) |
| Ultimate total pressure without gas ballast ¹⁾ | mbar (Torr) | | < 8 x 10 ⁻² (< 6 x 10 ⁻²) | < 8 x 10 ⁻² (< 6 x 10 ⁻²) | < 8 x 10 ⁻² (< 6 x 10 ⁻²) | < 8 x 10 ⁻² (< 6 x 10 ⁻²) | < 8 x 10 ⁻² (< 6 x 10 ⁻²) |
| Ultimate total pressure with one gas ballast valve ¹⁾ | mbar (Torr) | | ≤ 0.7 (≤ 0.5) | ≤ 0.7 (≤ 0.5) | ≤ 0.7 (≤ 0.5) | ≤ 0.7 (≤ 0.5) | ≤ 0.7 (≤ 0.5) |
| Ultimate total pressure with two gas ballast valves ¹⁾ | mbar (Torr) | | ≤ 2 (≤ 1.5) | ≤ 2 (≤ 1.5) | ≤ 2 (≤ 1.5) | ≤ 2 (≤ 1.5) | ≤ 2 (≤ 1.5) |
| Water vapor tolerance with 1 gas ballast ^{1), 2)} | mbar (Torr) | | 40.0 (30.0) | 50.0 (37.5) | 25.0 (18.8) | 30.0 (22.5) | 50.0 (37.5) |
| with 2 gas ballast valves ^{1), 2)} | mbar (Torr) | | 60.0 (45.0) | 70.0 (52.5) | 35.0 (26.3) | 40.0 (30.0) | 70.0 (52.5) |
| Max. perm. water vapor capacity with 1 gas ballast ^{1), 2)} | kg x h ⁻¹ (qt/hr) | | 17.0 (18.0) | 24.0 (25.4) | 11.0 (11.6) | 14.0 (14.8) | 24.0 (25.4) |
| with 2 gas ballast valves ^{1), 2)} | kg x h ⁻¹ (qt/hr) | | 26.0 (27.5) | 34.0 (35.9) | 15.0 (15.9) | 19.0 (20.1) | 34.0 (35.9) |
| Controlled anti-suck back valve 24 V DC | | | – | – | yes | yes | – |
| Oil filling min. / max. | l | | 20 / 23 | 20 / 23 | 20 / 23 | 20 / 23 | 20 / 23 |
| Noise level (averaged) ³⁾ | dB(A) | | 72 | 75 | 72 | 75 | 75 |
| Admissible ambient temperature | °C (°F) | | 12 - 40 (54 -104) | 12 - 40 (54 -104) | 12 - 40 (54 -104) | 12 - 40 (54 -104) | 12 - 40 (54 -104) |
| Motor power | kW (hp) | | 15.0 (20.2) | 18.5 (25.0) | 15.0 (20.2) | 18.5 (25.0) | 18.5 (–) |
| Nominal speed pump | min ⁻¹ (rpm) | | 820 (820) | 1000 (1000) | 820 (820) | 1000 (1000) | 1000 (1000) |
| Type of protection / Isolation | IP / - | | 54 / F | 54 / F | 54 / F | 54 / F | 54 / F |
| Cooling | | | air | air | water | water | air / water |
| Thermostatic valve | | | no | no | yes | yes | no / yes |
| Temperature protection Pump | | | no | no | yes | yes | no / yes |
| Motor PTC | | | no | no | yes | yes | no / yes |
| Water quality | TH | | – | – | 4 to 8 | 4 to 8 | – |
| Water pressure, min. / max. | bar (psig) | | – | – | 2/8 (29/114) | 2/8 (29/114) | – |
| Materials (materials in contact with the gas) | | | Steel, cast iron, Aluminium, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper), Epoxy resin & Glass fibre | Steel, cast iron, Aluminium, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper), Epoxy resin & Glass fibre | Steel, cast iron, Aluminium, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper), Epoxy resin & Glass fibre | Steel, cast iron, Aluminium, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper), Epoxy resin & Glass fibre | Steel, cast iron, Aluminium, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper), Epoxy resin & Glass fibre |
| Net weight (with oil filling) | kg (lbs) | | 730 (1611) | 760 (1678) | 730 (1611) | 760 (1678) | 750 (1656) |
| Dimensions (L x W x H) | mm (in.) | | 1510 x 909 x 740 (59.45 x 35.79 x 29.13) | 1510 x 909 x 740 (59.45 x 35.79 x 29.13) | 1566 x 638 x 909 (61.65 x 25.12 x 35.79) | 1566 x 638 x 909 (61.65 x 25.12 x 35.79) | 1510 x 909 x 740 (59.45 x 35.79 x 29.13) |
| Connection Intake | EUROPE / US | DN | DN 100 PN 10 / DN 100 ISO-K | DN 100 PN 10 / DN 100 ISO-K | DIN 160 Roots adapter 100 ISO-K | DIN 160 Roots adapter 100 ISO-K | DN 100 PN 10 / DN 100 ISO-K |
| Exhaust | EUROPE / US | DN | Option | Option | | | Option |

¹⁾ To DIN 28 400 and following numbers, with standard gas ballast

²⁾ Please ask Leybold for more information

³⁾ Operated at the ultimate pressure without gas ballast, free-field measurement at a distance of 1 m (3.5 ft)

Ordering Information

SV 630 B 50/60 Hz

SOGEVAC SV 630 BF 50/60 Hz

SV 750 B/BF 50 Hz

| | Part No. | Part No. | Part No. |
|--|---------------------|---------------------|---------------------|
| SOGEVAC SV 630 B with three-phase motor 400 V, 50 Hz (NEMA) and 230/460 V, 60 Hz | 960 865 | - | - |
| 380/400/415/690 V, 50 Hz and 440/460 V, 60 Hz | 960 863 | - | - |
| 200 V, 50 Hz (JIS) and 200 V, 60 Hz | 960 862 | - | - |
| SOGEVAC SV 630 BF with three-phase motor 400 V, 50 Hz (NEMA) and 230/460 V, 60 Hz | - | 960 869 | - |
| 380/400/415/690 V, 50 Hz and 440/460 V, 60 Hz | - | 960 867 | - |
| 200 V, 50 Hz (JIS) and 200 V, 60 Hz | - | 960 866 | - |
| SOGEVAC SV 750 B with three-phase motor 380/400/415/690 V, 50 Hz | - | - | 960 875 |
| SOGEVAC SV 750 BF with three-phase motor 380/400/415/690 V, 50 Hz | - | - | 960 877 |
| Other voltages/frequencies | upon request | upon request | upon request |
| Filling with special oil | upon request | upon request | upon request |

Ordering Information

**SV 630 B
50/60 Hz**

**SOGEVAC
SV 630 BF
50/60 Hz**

**SV 750 B/BF
50 Hz**

| | Part No. | Part No. | Part No. |
|--|--|--|--|
| Accessories | | | |
| Adapter for Roots pump RUVAC 1000 RUVAC 2000 RUVAC WH4400 | 971 432 340 971 432 350 971 43 WH4400 | 971 432 340 standard 971 43 WH4400 | 971 432 340 971 432 350 971 43 WH4400 |
| Oil drain valve | 711 30 114 | standard | 711 30 114 |
| Gas ballast kit electromagnetic, 24 V DC | 971 438 170 | standard | 971 438 170 |
| Gas ballast, standard manual | standard | 971 446 490 | 971 446 490 |
| 2nd gas ballast valve electromagnetic, 24 V DC manual | - 971 438 340 | 971 438 160 - | - 971 438 340 |
| Exhaust filter monitoring gauge | 951 94 | 951 94 | 951 94 |
| Oil level check | 971 425 760 | 971 425 760 | 425 760 |
| Temperature switch | standard | standard | standard |
| Water cooling with thermostatic valve | upon request | standard | upon request |
| Intake kit DN 100 ISO-K | standard | 971 430 550 | standard |
| Exhaust filter overpressure switch | 712 22 360 | 712 22 360 | 712 22 360 |
| Oil filter bypass | 712 36 390 | 712 36 390 | 712 36 390 |
| Exhaust kit DN 100 PN 10 - 100 ISO-K | 971 438 540 | standard | 971 438 540 for B version, standard on SV 750 BF |
| Spare Parts | | | |
| Oil filter, standard | 714 05 310 | 714 05 310 | 714 05 310 |
| Exhaust filter AFE SV630/SV750B/SV300B (8 are required) | 971 431 120 | 971 431 120 | 971 431 120 |
| Intake filter element Paper Metal Activated charcoal Polyester | 710 35 242 E 710 37 734 710 37 724 712 61 508 | 710 35 242 E 710 37 734 710 37 724 712 61 508 | 710 35 242 E 710 37 734 710 37 724 712 61 508 |
| Seal kit FPM | 971 437 310 | 971 437 310 | 971 437 310 |
| Repair kit, complete | 971 437 320 | 971 437 320 | 971 437 320 |
| Generator kit | 971 437 330 | 971 437 330 | 971 437 330 |
| Maintenance kit | 971 437 340 | 971 437 340 | 971 437 340 |

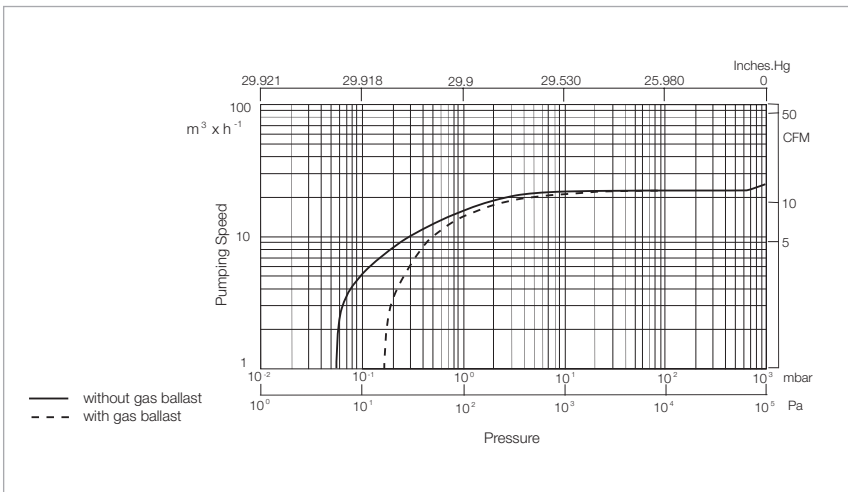
SOGEVAC SV 28 BI



SOGEVAC SV 28 BI

Advantages to the User

- 1 decade better ultimate pressure compared to SOGEVAC SV 25 B
- Integrated exhaust filter
- Integrated oil recovery system and anti suckback valve
- Extremely low noise level
- High reliability
- Variant concept
- Customer specific configurations
- High pumping speed stability at low pressure
- 2 oil casings (0.5 and 1.5 l) are available. The bigger oil volume allows longer oil life times



Pumping speed characteristics of the SOGEVAC SV 28 BI at 50 Hz
(60 Hz curves at the end of the chapter)

Typical Applications

- Mass spectrometry
- Lyophilisation
- Laboratory
- Refrigeration and air-conditioning
- Lamps and bulbs
- ... and more

Technical Data**SOGEVAC SV 28 BI****50 Hz****60 Hz**

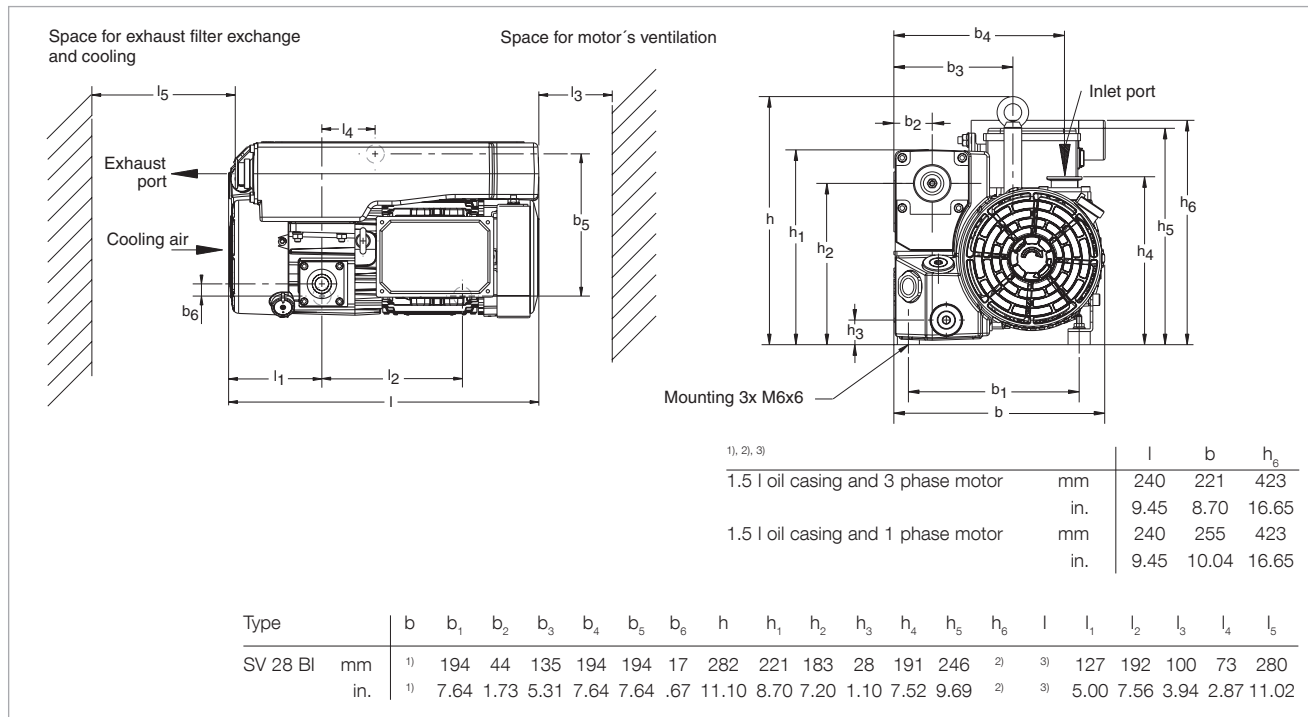
| | | 50 Hz | 60 Hz |
|---|--|--------------------------|--------------------------|
| Nominal pumping speed | m ³ x h ⁻¹ (cfm) | 25 (14.8) | 30 (17.8) |
| Pumping speed (according to PNEUROP) | m ³ x h ⁻¹ (cfm) | 23 (13.6) | 27 (15.9) |
| Ultimate total pressure without gas ballast | mbar (Torr) | ≤ 0.05 (≤ 0.04) | ≤ 0.05 (≤ 0.04) |
| Ultimate total pressure with gas ballast | mbar (Torr) | ≤ 0.5 (≤ 0.4) | ≤ 0.5 (≤ 0.4) |
| Water vapor tolerable load with gas ballast | mbar (Torr) | 10.0 (7.5) | 10.0 (7.5) |
| Noise level (according to DIN 466535) | | | |
| 3 ~ motor | dB(A) | 54 | 57 |
| 1 ~ motor | dB(A) | 57 | 60 |
| Motor power | | | |
| 3 ~ motor | kW (hp) | 0.90 (1.2) | 1.1 (1.5) |
| 1 ~ motor | kW (hp) | 0.75 (1.0) | 0.9 (1.2) |
| Mains voltage and frequency | | | |
| 3 ~ motor | V | see Ordering Information | see Ordering Information |
| 1 ~ motor | V | see Ordering Information | see Ordering Information |
| Rated rotational speed | min ⁻¹ (rpm) | 1500 (1500) | 1800 (1800) |
| Type of protection and isolation class | | | |
| 3 ~ motor | IP | 55-F | 55-F |
| 1 ~ motor | IP | 55-F | 55-F |
| Leak rate | mbar x l x s ⁻¹ | ≤ 1 x 10 ⁻³ | ≤ 1 x 10 ⁻³ |
| Oil capacity LVO 110 (depending on Part No.) | l (qt) | 1.5 (1.59) | 1.5 (1.59) |
| Net weight (with oil filling) dependant of oil casing and motor | kg (lbs) | 34 (75) to 37 (82) | 34 (75) to 37 (82) |
| Connections | | | |
| intake | DN | 25 ISO-KF | 25 ISO-KF |
| exhaust | DN | 25 ISO-KF | 25 ISO-KF |

Ordering Information

SOGEVAC SV 28 BI

50/60 Hz

| | Part No. |
|--|---------------------|
| SOGEVAC SV 28 BI with wide range three-phase motor 170 - 253 / 294 - 440 V, 50 Hz and 170 - 292 / 294 - 506 V, 60 Hz with gas ballast, with 1.5 l oil casing | 960 273 |
| with wide range single-phase motor 180 - 264 V, 50/60 Hz with gas ballast, with 1.5 l oil casing | 960 277 |
| with single-phase motor (US and Japan) 100 V + 10%/- 15%, 50/60 Hz and 115 V + 10%/- 15%, 60 Hz with gas ballast, with 1.5 l oil casing | upon request |
| Other voltages/frequencies | upon request |
| Filling with special oil | upon request |
| Accessories | |
| Exhaust filter cartridge | 714 16 340 |
| Spare Parts | |
| Repair kit | 971 462 690 |
| Set of seals FPM (FKM) | 971 462 670 |
| Generator kit | |
| three-phase | 971 462 620 |
| single-phase | 971 462 630 |
| Maintenance kit | 971 462 810 |
| For further accessories see Chapter "Accessories TRIVAC" in the Catalog Part "Oil Sealed Vacuum Pumps TRIVAC" | |



Dimensional drawing for the SOGEVAC SV 28 BI with standard single-phase motor, European version (dimensions for three-phase motor smaller)

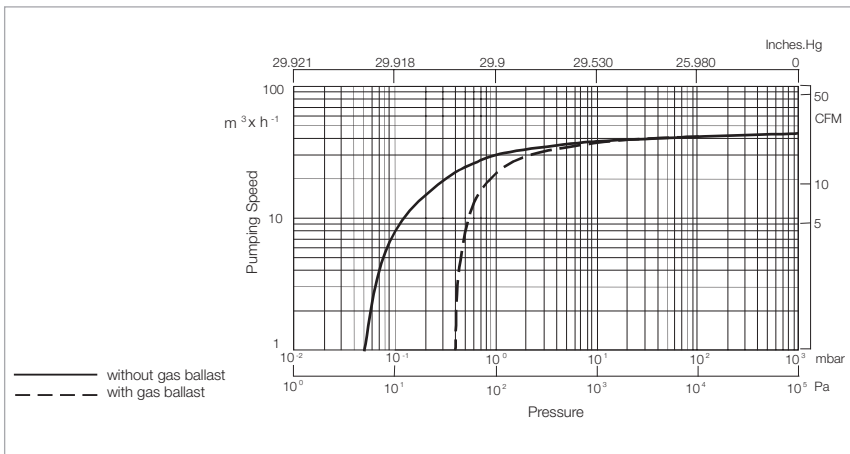
SOGEVAC SV 40 BI



SOGEVAC SV 40 BI

Advantages to the User

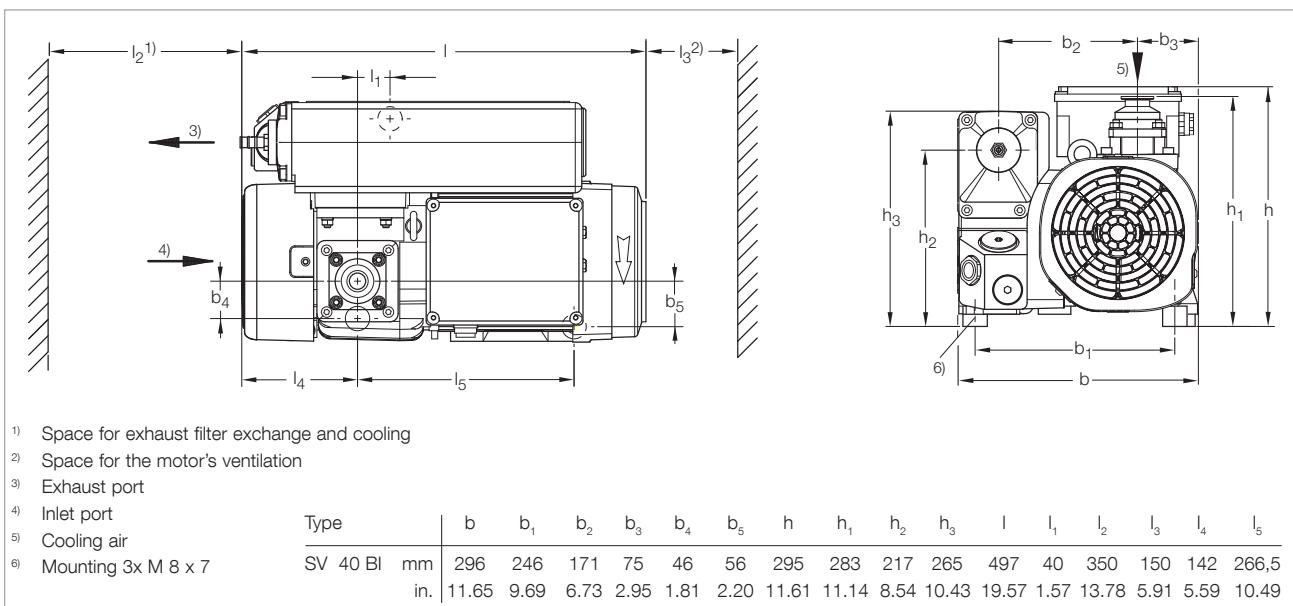
- 1 decade better ultimate pressure compared to SOGEVAC SV 40 B
- Integrated exhaust filter
- Integrated oil recovery system and anti suckback valve
- Extremely low noise level
- High reliability
- Variant concept
- Customer specific configurations
- High pumping speed stability at low pressure



Pumping speed characteristics of the SOGEVAC SV 40 BI at 50 Hz (60 Hz curves at the end of the chapter)

Typical Applications

- Mass spectrometry
- Lyophilisation
- Refrigeration and air-conditioning
- Laboratory
- Lamps and bulbs
- ... and more



Dimensional drawing for the SOGEVAC SV 40 BI with standard single-phase motor, European version (dimensions for three-phase motor smaller)

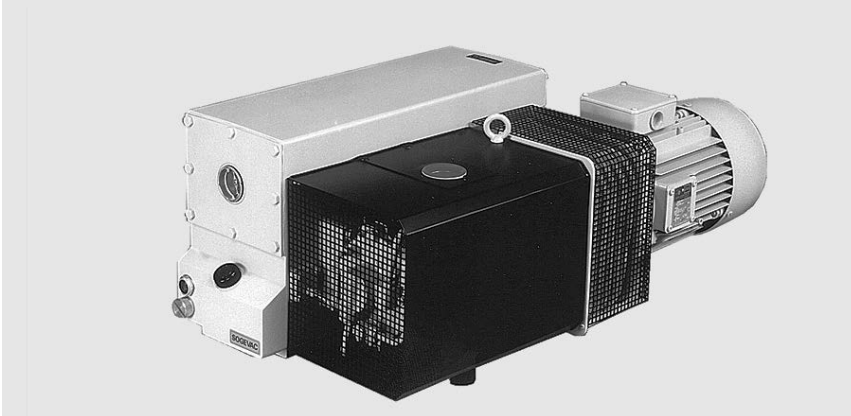
Technical Data**SOGEVAC SV 40 BI****50 Hz****60 Hz**

| | | | |
|---|--|---|---|
| Nominal pumping speed | m ³ x h ⁻¹ (cfm) | 42 (24.8) | 50 (29.5) |
| Pumping speed (according to PNEUROP) | m ³ x h ⁻¹ (cfm) | 40 (23.6) | 48 (28.3) |
| Ultimate total pressure without gas ballast | mbar (Torr) | ≤ 5 x 10 ⁻² (≤ 3.75 x 10 ⁻²) | ≤ 5 x 10 ⁻² (≤ 3.75 x 10 ⁻²) |
| Ultimate total pressure with gas ballast | mbar (Torr) | ≤ 0.5 (≤ 0.4) | ≤ 0.5 (≤ 0.4) |
| Water vapor tolerable load with gas ballast | mbar (Torr) | 0.28 (0.21) | 0.34 (0.21) |
| Motor power | kW (hp) | 1.1 (1.5) | 1.3 (1.8) |
| Mains voltage and frequency | V | see Ordering Information | see Ordering Information |
| Rated rotational speed | min ⁻¹ (rpm) | 1500 (1500) | 1800 (1800) |
| Type of protection | IP | 55-F | 55-F |
| Leak rate | mbar x l x s ⁻¹ | ≤ 1 x 10 ⁻³ | ≤ 1 x 10 ⁻³ |
| Oil capacity | l (qt) | 1.0 (1.1) | 1.0 (1.1) |
| Weight (with oil) | kg (lbs) | 43 (94.9) | 45 (99.3) |
| Connections | | | |
| intake | DN | 40 KF | 40 KF |
| exhaust | DN | 40 KF | 40 KF |

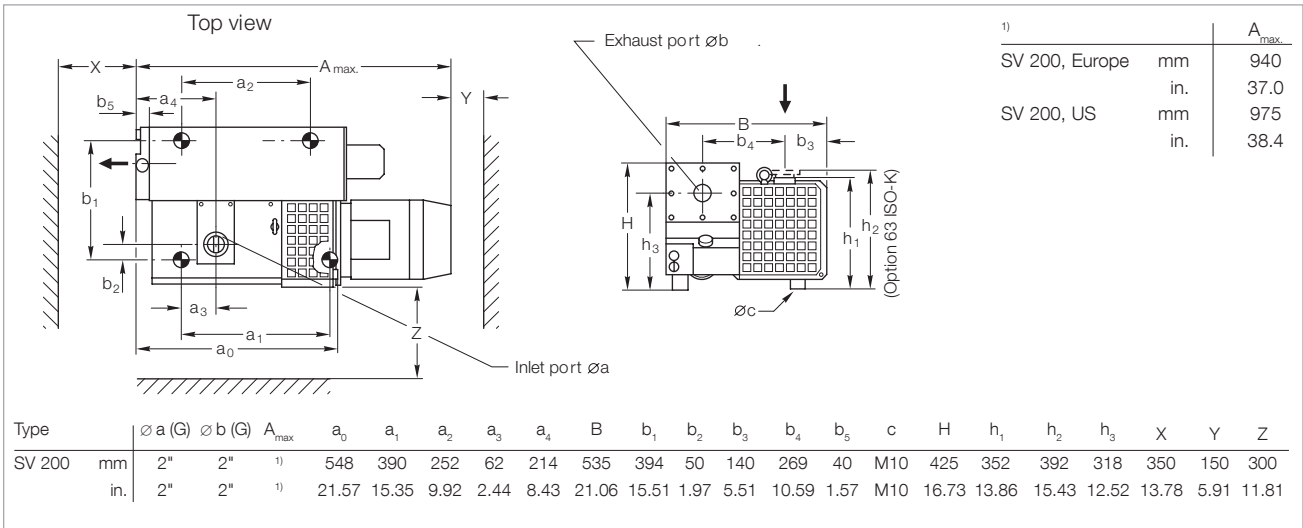
Ordering Information**SOGEVAC SV 40 BI
50/60 Hz**

| | Part No. |
|--|---------------------|
| SOGEVAC SV 40 BI | |
| with three-phase motor | |
| without gas ballast | |
| 230/400 V, 50 Hz and 460 V, 60 Hz | 960 330 |
| with small gas ballast | |
| 230/400 V, 50 Hz and 460 V, 60 Hz | 960 331 |
| Other voltages/frequencies or | |
| single-phase motors | upon request |
| Filling with special oil | upon request |
| Accessories | |
| Exhaust filter cartridge AFE SV40B I | 971 471 470 |
| Spare Parts | |
| Repair kit | 971 443 150 |
| Set of seals | 971 427 640 |
| Maintenance kit | 971 427 660 |
| Vacuum generator | |
| with gas ballast | 971 443 160 |
| without gas ballast | 971 443 170 |
| For further accessories see Chapter "Accessories TRIVAC" in the Section "Oil Sealed Vacuum Pumps TRIVAC" | |

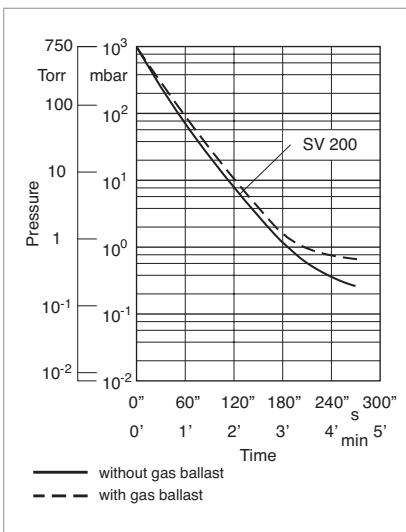
SOGEVAC SV 200



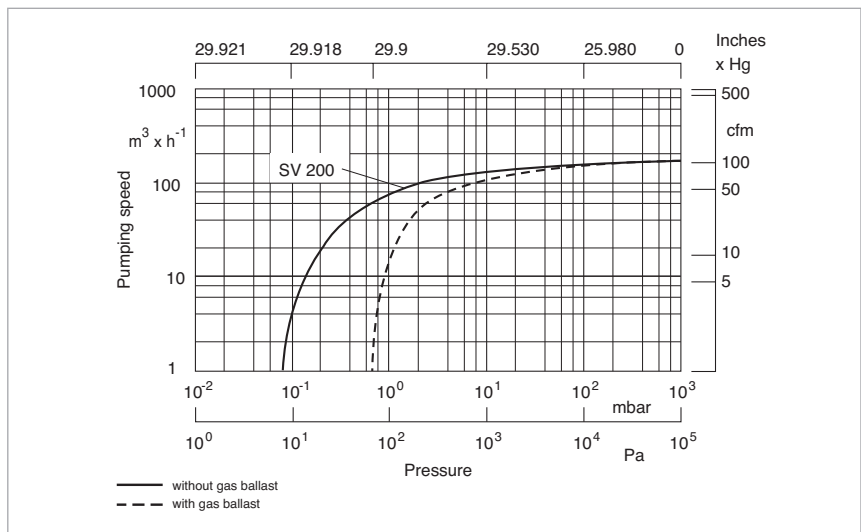
SOGEVAC SV 200



Dimensional drawing for the SOGEVAC SV 200, European version



Pump-down characteristics of a 1000 l vessel at 50 Hz



Pumping speed characteristics of the SOGEVAC SV 200 at 50 Hz (60 Hz curves at the end of the chapter)

Technical Data**SOGEVAC SV 200**

| | | 50 Hz | 60 Hz |
|--|--|---|---|
| Nominal speed ¹⁾ | m ³ x h ⁻¹ (cfm) | 180 (106.0) | 220 (129.5) |
| Pumping speed ¹⁾ | m ³ x h ⁻¹ (cfm) | 170 (100.1) | 200 (117.8) |
| Ultimate total pressure without gas ballast ¹⁾ | mbar (Torr) | ≤ 8 x 10 ⁻² (≤ 6 x 10 ⁻²) | ≤ 8 x 10 ⁻² (≤ 6 x 10 ⁻²) |
| Ultimate total pressure with gas ballast ¹⁾ | mbar (Torr) | ≤ 0.7 (≤ 0.5) | ≤ 0.7 (≤ 0.5) |
| Water vapor tolerance with standard gas ballast ¹⁾ | mbar (Torr) | 30.0 (22.5) | 40.0 (30.0) |
| with big gas ballast ²⁾ | mbar (Torr) | 50.0 (37.5) | 50.0 (37.5) |
| Water vapor capacity with standard gas ballast | kg x h ⁻¹ (qt/hr) | 3.4 (3.6) | 5.4 (5.7) |
| Oil capacity, min. / max. | l (qt) | 5.0 (5.3) / 9.0 (9.5) | 5.0 (5.3) / 9.0 (9.5) |
| Noise level ³⁾ | dB(A) | 69 | 73 |
| Admissible ambient temperature | °C (°F) | 12 to 40 (54 to 104) | 12 to 40 (54 to 104) |
| Motor power | kW (hp) | 4.0 (7.5) | 4.6 (7.5) |
| Nominal speed | min ⁻¹ (rpm) | 1450 (1450) | 1750 (1750) |
| Type of protection | IP | 55 | TEFC/55 ⁴⁾ |
| Materials (materials in contact with the gas) | | Steel, cast iron, Aluminium, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper), Epoxy resin & Glass fibre | Steel, cast iron, Aluminium, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper), Epoxy resin & Glass fibre |
| Weight (with oil filling) | kg (lbs) | 140 (309) | 160 (353) |
| Connections ⁵⁾ | | | |
| Intake, Thread | G or NPT | 2" | 2" |
| Exhaust, Thread | G or NPT | 2" | 2" |

¹⁾ To DIN 28 400 and following numbers

²⁾ Ordering Information see Chapter "Accessories"

³⁾ Operated at the ultimate pressure without gas ballast, free-field measurement at a distance of 1 m (3.5 ft)

⁴⁾ CEI motor (Europe) 50/60 Hz has IP 55, NEMA motor (North and South America) has TEFC

⁵⁾ Pumps with European and Japanese motors have G, pumps with US (NEMA) motors have NPT

Ordering Information

SOGEVAC SV 200

50/60 Hz

| | Part No. |
|---|---|
| SOGEVAC SV 200/SV 300 ¹⁾ with three-phase motor, without gas ballast 230/400 V, 50 Hz and 460 V, 60 Hz (CEI) ²⁾ 200 V, 50/60 Hz (JIS) | 109 26 955 26 |
| with three-phase motor and integrated gas ballast valve 230/400 V, 50 Hz and 460 V, 60 Hz (CEI) ²⁾ 208 - 230/460 V, 60 Hz (NEMA) and 400 V, 50 Hz ²⁾ 200 V, 50/60 Hz (JIS) | 109 27 950 27 955 27 |
| Other voltages/frequencies ³⁾ | upon request |
| Filling with special oil ³⁾ | upon request |
| Accessories | |
| Adaptor for Roots pump ^{3), 4)} RUVAC 501 (BR 2) RUVAC 1001 (BR 2) | 953 90 953 91 |
| Mounting pedestal for fitting to a Roots pump | 711 19 209 |
| Oil level monitor ^{3), 4)} | 953 96 |
| Thermal switch ^{3), 4)} | 951 36 |
| Exhaust filter gauge, mechanical ^{3), 4)} | 951 94 |
| Exhaust filter monitoring switch, electric ³⁾ | upon request |
| Manual gas ballast ^{3), 4)} | 951 30 |
| Gas ballast valve, electromagnetic 24 V DC ^{3), 4)} | 951 31 |
| Two gas ballast valves ³⁾ | upon request |
| Water cooling with thermostatic valve ³⁾ | upon request |
| Spare Parts | |
| Oil filter | 710 18 850 |
| Oil filter bypass | 712 30 570 |
| Exhaust filter cartridge (4x required) AFE SV40-SV100 / SV 180/200 | 710 64 763 |
| Vanes (set of 3 pieces) | 714 12 000 |
| Set of gaskets NBR (standard) | 971 97 552 |
| Set of gaskets FPM (FKM) | 714 36 730 |
| Repair kit complete | 714 36 190 |
| Pump module complete | 714 36 770 |

¹⁾ Pumps with European and Japanese motors have G,
pumps with US (NEMA) have NPT

²⁾ IEC motor (Europe) 50/60 Hz have IP 55, NEMA motor have TEFC

³⁾ Please indicate when ordering a pump

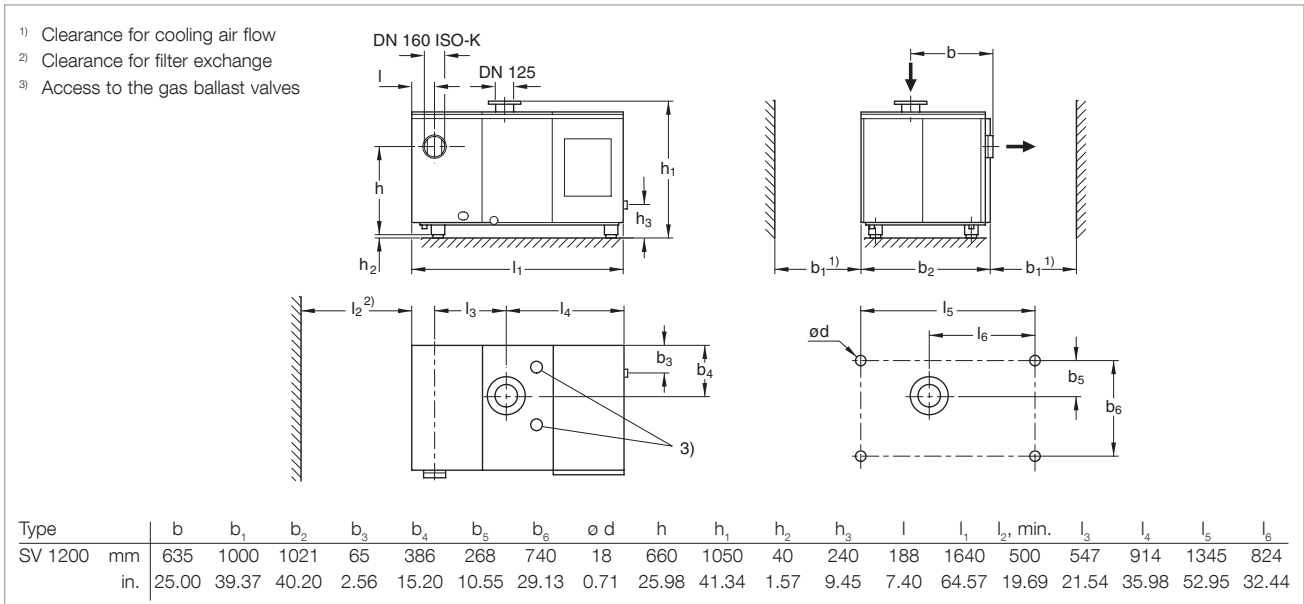
⁴⁾ Can be retrofitted

Note: Further pump options upon request (for example, water cooled pumps)

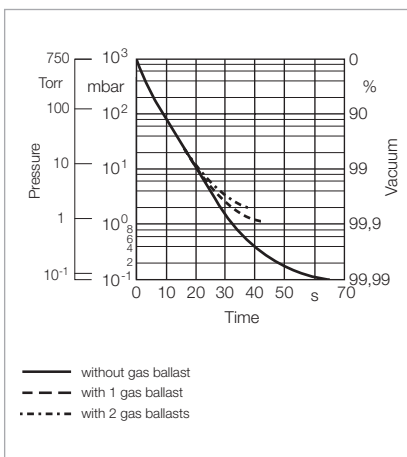
SOGEVAC SV 1200



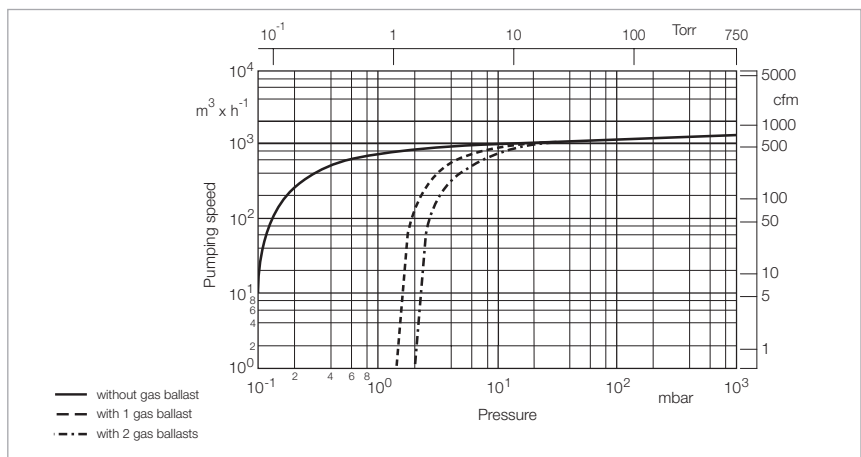
SOGEVAC SV 1200



Dimensional drawing for the SOGEVAC SV 1200



Pump-down characteristics of a 1000 l vessel at 50 Hz



Pumping speed characteristics of the SOGEVAC SV 1200 at 50 and 60 Hz

Technical Data

SOGEVAC SV 1200

| | | 50 Hz | 60 Hz |
|--|--|--|--|
| Nominal speed ¹⁾ | m ³ x h ⁻¹ (cfm) | 1150 (677) | 1150 (677) |
| Pumping speed ¹⁾ | m ³ x h ⁻¹ (cfm) | 1070 (630) | 1070 (630) |
| Ultimate total pressure without gas ballast ¹⁾ | mbar (Torr) | ≤ 0.1 (≤ 0.08) | ≤ 0.1 (≤ 0.08) |
| Ultimate total pressure with 1 standard gas ballast ¹⁾ | mbar (Torr) | ≤ 1.5 (≤ 1.1) | ≤ 1.5 (≤ 1.1) |
| with 2 gas ballasts ²⁾ | mbar (Torr) | ≤ 2.0 (≤ 1.5) | ≤ 2.0 (≤ 1.5) |
| Water vapor tolerance with 1 gas ballast | mbar (Torr) | 20.0 (15.0) | 20.0 (15.0) |
| with 2 gas ballasts | mbar (Torr) | 40.0 (30.0) | 40.0 (30.0) |
| Water vapor capacity with 1 gas ballast | kg x h ⁻¹ (qt/hr) | 12.5 (13.0) | 12.5 (13.0) |
| with 2 gas ballasts | kg x h ⁻¹ (qt/hr) | 25.0 (26.0) | 25.0 (26.0) |
| Oil capacity, min. / max. | l (qt) | 60 (63) / 70 (74) | 60 (63) / 70 (74) |
| Noise level ³⁾ | dB(A) | 75 | 75 |
| Admissible ambient temperature | °C (°F) | 12 to 40 (54 to 104) | 12 to 40 (54 to 104) |
| Motor power | kW (hp) | 22 (30) | 22 (30) |
| Nominal motor speed / Pump rated rotational speed | min ⁻¹ (rpm) | 1460 (1460) / 700 (700) | 1750 (1750) / 700 (700) |
| Type of protection | IP | 54-F | 54-F/TEFC ⁴⁾ |
| Weight (with oil filling) | kg (lbs) | 1450 (3200) | 1500 (3311) |
| Dimensions (L x W x H) | mm (in.) | 1640 x 1021 x 1050 (64.57x 40.20 x 41.34) | 1640 x 1021 x 1050 (64.57x 40.20 x 41.34) |
| Connection | | | |
| Intake | DN | 125 PN 10 | ASA 150 - 6" ⁵⁾ |
| Exhaust | DN | 160 ISO-K | ASA 150 - 6" ⁵⁾ |
| Option ⁶⁾ | DN | 125 PN 10 | - |

¹⁾ To DIN 28 400 and following numbers

²⁾ With 2 gas ballasts

³⁾ Operated at the ultimate pressure without gas ballast, free-field measurement at a distance of 1 m (3.5 ft)

⁴⁾ CEI motor (Europe) 50/60 Hz has IP 54, NEMA motor (North and South America) has TEFC

⁵⁾ For NEMA pumps

⁶⁾ Please indicate when ordering a pump

Note: Further pump options upon request (for example, water cooled pumps)

Ordering Information

SOGEVAC SV 1200 50/60 Hz

| | Part No. |
|--|---------------------|
| SOGEVAC SV 1200 with three-phase motor, integrated gas ballast valves, air-cooled and over-temperature switch | |
| 400 V, 50 Hz (CEI) ¹⁾ | 109 70 |
| 208 - 230/460 V, 60 Hz (NEMA) | 950 70 |
| Other voltages/frequencies ²⁾ | upon request |
| Filling with special oil ²⁾ | upon request |
| Accessories | |
| Water cooling with thermostatic valve ²⁾ | upon request |
| Adaptor for Roots pump ^{2), 3)} | |
| RUVAC 2001 | 953 37 |
| RUVAC 3001 | 953 38 |
| RUVAC WH 4400/7000 | 953 3WH |
| Oil level monitor ^{2), 3)} | 953 99 |
| Exhaust filter monitoring switch electric ²⁾ | 712 22 360 |
| Spare Parts | |
| Oil filter | 712 14 598 |
| Oil filter bypass | 712 36 390 |
| Exhaust filter cartridge (14x required) AFE SV280/SV 300-SV1200 | 710 64 773 |
| Vanes (set of 3 pieces) | 712 14 310 |
| Set of gaskets NBR (standard) | 971 96 681 |
| Set of gaskets FPM (FKM) | 712 36 060 |
| Repair kit complete (50 Hz) | 712 34 800 |
| Pump module complete (50 Hz) | 712 34 820 |

¹⁾ Junction box with six terminals for star/delta circuit

²⁾ Please indicate when ordering a pump

³⁾ Can be retrofitted

Note: Further pump options upon request

SOGEVAC SV 16 D and SV 25 D



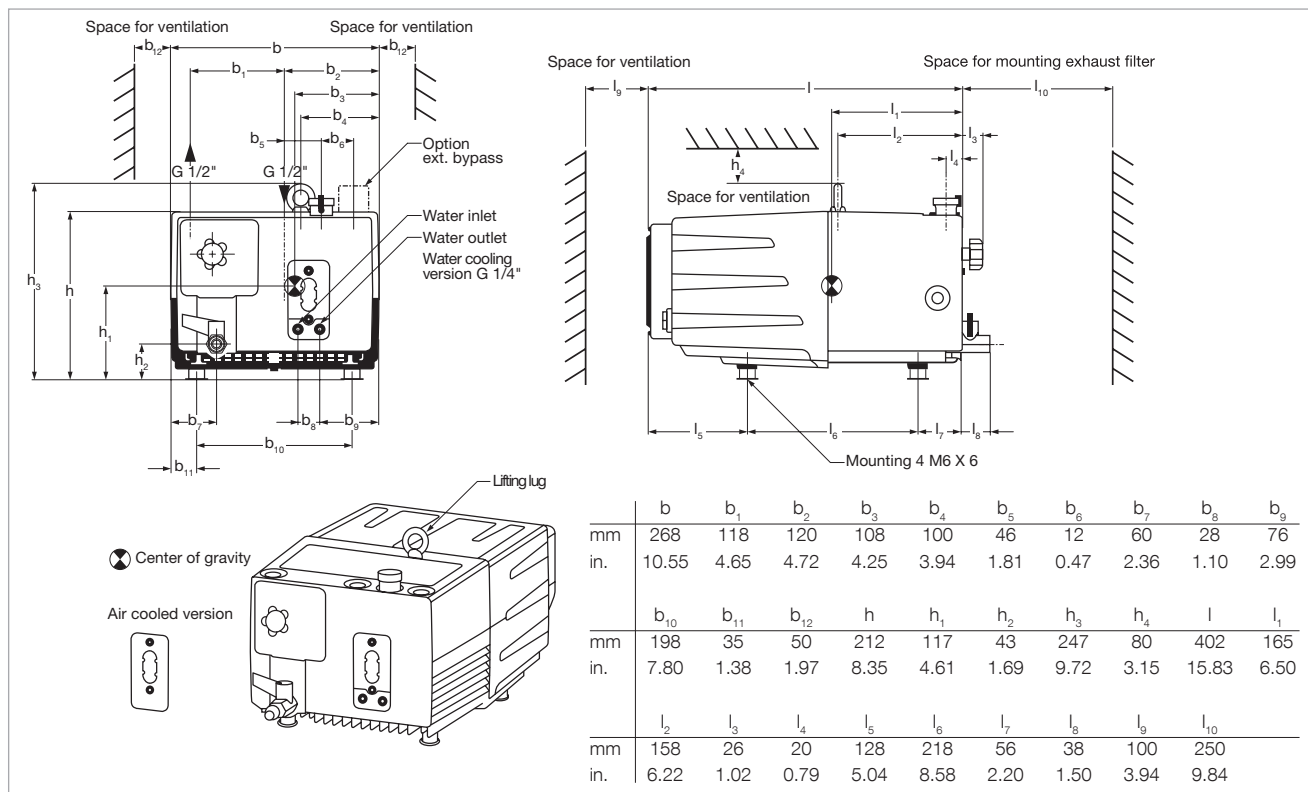
SOGEVAC SV 16 D / 25 D

Advantages to the User

- Good pump temperature due to optimized air cooling. Add water cooling possible, ideal for harsh applications and optimal oil life time thus reached
- 4 times more oil than on comparable pumps allow long oil life times
- Optimized integrated lubrication without external pipes
- Integrated oil recovery system and anti suckback valve
- Low noise level due to low pump speed
- Variant concept
- 3 phase wide range motors
- Different single phase motors with overload protection in accordance to EN 61010-1
- Compact and nice design

Typical Applications

- Oil purification, drying and de-gassing
- Plastic and rubber injection presses
- CO₂ lasers
- O₂ applications
- Analytical Instruments
- ... and more



Dimensional drawing for the SOGEVAC SV 16 D and SV 25 D

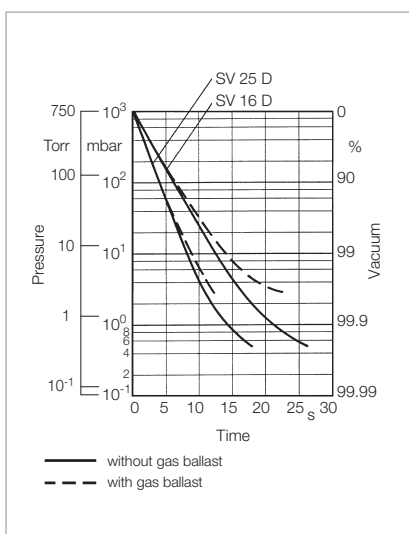
Technical Data

| | | SOGEVAC SV 16 D | | SOGEVAC SV 25 D | |
|--|--|-----------------|---------------|-----------------|---------------|
| | | 50 Hz | 60 Hz | 50 Hz | 60 Hz |
| Nominal speed ¹⁾ | m ³ x h ⁻¹ (cfm) | 16.0 (9.4) | 18.7 (11.0) | 25.0 (14.7) | 29.0 (17.0) |
| Pumping speed ¹⁾ | m ³ x h ⁻¹ (cfm) | 14.5 (8.5) | 17.0 (10.0) | 22.5 (13.3) | 25.5 (15.0) |
| Ultimate total pressure without gas ballast ¹⁾ | mbar (Torr) | ≤ 0.5 (≤ 0.4) | ≤ 0.5 (≤ 0.4) | ≤ 0.5 (≤ 0.4) | ≤ 0.5 (≤ 0.4) |
| Ultimate total pressure without gas ballast ¹⁾ | mbar (Torr) | ≤ 1.5 (≤ 1.1) | ≤ 1.5 (≤ 1.1) | ≤ 1.5 (≤ 1.1) | ≤ 1.5 (≤ 1.1) |
| Water vapor tolerance ¹⁾ | mbar (Torr) | 15.0 (11.3) | 15.0 (11.3) | 15.0 (11.3) | 15.0 (11.3) |
| Water vapor capacity | kg x h ⁻¹ (qt/hr) | 0.05 (0.05) | 0.15 (0.16) | 0.05 (0.05) | 0.15 (0.16) |
| Oil capacity | l (qt) | 2.0 (2.1) | 2.0 (2.1) | 2.0 (2.1) | 2.0 (2.1) |
| Noise level ²⁾ | dB(A) | 59 | 59 | 59 | 59 |
| Admissible ambient temperatur | | | | | |
| 1~ (oil: 32 cSt, approx.) | °C | +18 to +40 | +18 to +40 | +18 to +40 | +18 to +40 |
| | (°F) | (+64 to 104) | (+64 to 104) | (+64 to 104) | (+64 to 104) |
| 3~ | °C | +12 to +40 | +12 to +40 | +12 to +40 | +12 to +40 |
| | (°F) | (+54 to 104) | (+54 to 104) | (+54 to 104) | (+54 to 104) |
| Motor power (1~ and 3~), approx. | kW (hp) | 0.75 (1.01) | 0.90 (1.21) | 0.75 (1.01) | 0.90 (1.21) |
| Nominal speed | min ⁻¹ (rpm) | 1440 (1440) | 1750 (1750) | 1440 (1440) | 1750 (1750) |
| Weight (with oil filling) | kg (lbs) | 25 (55.1) | 25 (55.1) | 25 (55.1) | 25 (55.1) |
| Connections, Intake and Exhaust ³⁾ (Inside thread) | NPT/G | 1/2" | 1/2" | 1/2" | 1/2" |

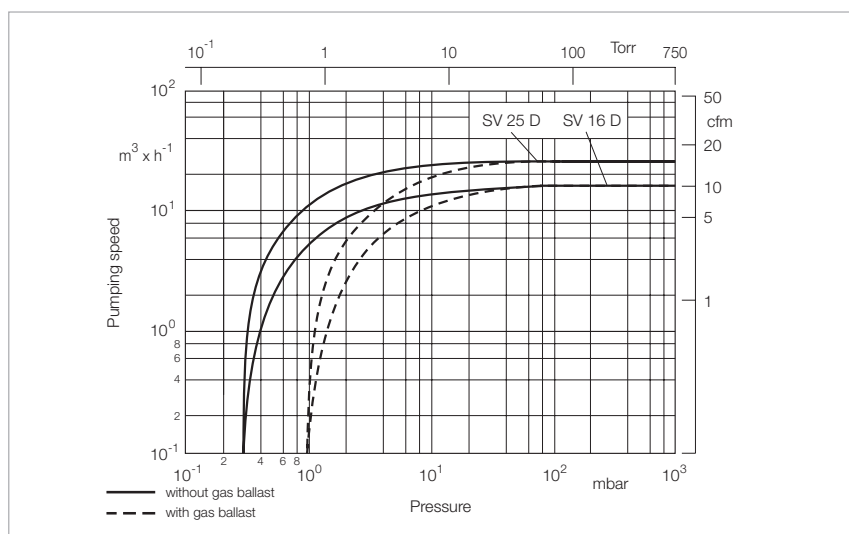
¹⁾ To DIN 28 400 ff

²⁾ Operated at the ultimate pressure without gas ballast, free-field measurement at a distance of 1 m (3.5 ft)

³⁾ Please indicate when ordering a pump



Pump-down characteristics of a 10 l vessel at 50 Hz



Pumping speed characteristics of the SOGEVAC SV 16 D and SV 25 D at 50 Hz (60 Hz curves at the end of the chapter)

Ordering Information

SOGEVAC SV 16 D

SOGEVAC SV 25 D

| | Part No. | Part No. |
|--|-----------------------|-----------------------|
| SOGEVAC SV 16/SV 25 D | | |
| with UL/CSA world three-phase motor and integrated gas ballast valve | | |
| 200 - 240 V ±10% and 380 - 415 V ±10%, 50 Hz / | | |
| 200 - 240 V ±10% and 380 - 460 V ±10%, 60 Hz ¹⁾ | 960 181V | 960 211V |
| 200 V +10-15%, 50/60 Hz | 960 180V | 960 210V |
| with single phase motor and integrated gas ballast valve | | |
| 200 - 240 V ±10%, 50/60 Hz | 960 185V | — |
| 230 V ±10%, 50/60 Hz | — | 960 215V |
| 110 - 115 V ±10% and 220 - 230 V ±10%, 50/60 Hz (swithable manually) | 960 186V | — |
| Other voltages/frequencies | upon request | upon request |
| Filling with special oil | upon request | upon request |
| Accessories | | |
| Exhaust filter monitoring gauge, mechanical G 3/4" ^{2), 3)} | 951 93 | 951 93 |
| Temperature switch conversion kit with plug, for three-phase version only ^{2), 3)} | upon request | upon request |
| Spare Parts | | |
| Exhaust filter cartridge AFE SV16/25 BR2 | 712 32 023 | 712 32 023 |
| Maintenance kit (filter, O-Ring, filling plug) | EK 971 473 420 | EK 971 473 420 |
| Seal kit FPM (FKM) | EK 971 473 430 | EK 971 473 430 |
| Repair kit complete | EK 971 473 440 | EK 971 473 440 |

¹⁾ Pumps are delivered in high voltage connection.

For an operation at low voltage, the connections at motor terminal board must be changed

²⁾ Please indicate when ordering a pump

³⁾ Can be retrofitted

Pumps Prepared with PFPE for Use with Oxygen

Application

As soon as oxygen is being pumped at concentrations exceeding 20% (atmospheric air) the SOGEVAC pump needs to be prepared especially for such operation.

Safety Precautions

As standard, the pumps are equipped with FPM (FKM) seals and an oil filter bypass. Before assembly, all parts are degreased and the pumps are tested with PFPE lubricant (LVO 400). Thereafter the pumps are emptied and delivered without PFPE lubricant (LVO 400).

The pumps are supplied with special Operating Instructions (GA), Spare Parts List (ET) and include a CE declaration. This special information must be observed.

Due to the use of PFPE lubricant (LVO 400) and grease, also the maintenance schedule has been changed accordingly.

Only degreased accessories (filters and valves) and original spare parts from Leybold must be used.

Product Selection

SOGEVAC pumps of the following sizes are available:

SV 16, SV 25, SV 65 B, SV 100 B, SV 200, SV 300 B, SV 630 B (F) and SV 750 B.

The use of PFPE lubricant (LVO 400) will also impair the attainable ultimate pressure depending on the size of the pump.

Local safety regulations (handling of O₂ and PFPE (LVO 400)) must be observed!

Advantages to the User

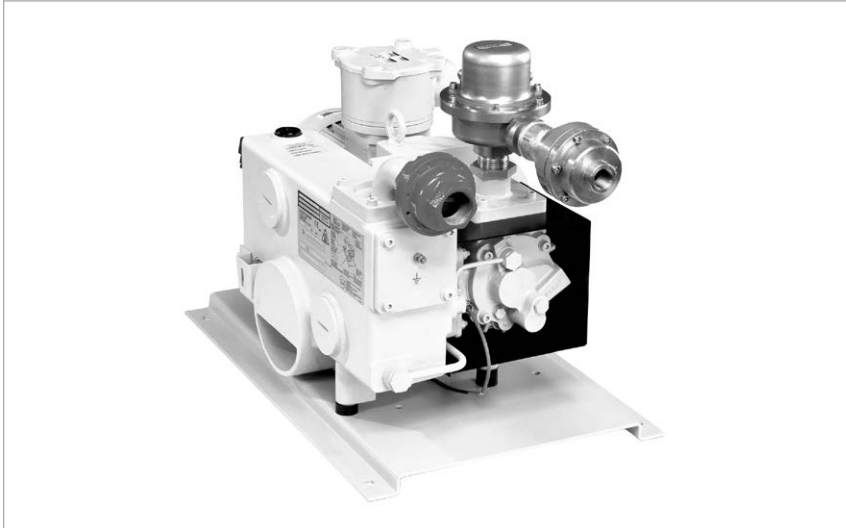
- High pumping speed down to ultimate pressure
- Operation of the pump at all pressures between 1000 mbar (750 Torr) and ultimate pressure is possible
- Integrated and effective separation of oil mist
- Compact design
- Air or water cooled
- Environment friendly (low noise and low heat radiation, low vibrations)
- Available in many different variants, motor voltages, ports etc.

Pump

Ultimate pressure (mbar (Torr))
without gas ballast with gas ballast

| | Part No. | | |
|-------------|--|-------------|------------|
| SV 16 | 1900016, 1900116, 1098116, 9550116 | 1.0 (0.75) | 1.5 (1.13) |
| SV 25 | 1090216, 1090316, 1099016, 1099116 | 1.0 (0.75) | 1.5 (1.13) |
| SV 65 B | 960400V2016, 960401V2016, 960412V2016 | 1.0 (0.75) | 2.5 (1.88) |
| SV 100 B | 960500V2016, 960505V2016, 960512V2016 | 1.0 (0.75) | 2.5 (1.88) |
| SV 200 | 1092616, 1092716, 9502716 | 0.5 (0.375) | 1.5 (1.13) |
| SV 300 B | 960702V2016, 960707V2016, 960717V2016 | 0.5 (0.38) | 1.5 (1.13) |
| SV 630 B(F) | 960863V3011 | 1.0 (0.75) | 1.5 (1.13) |
| SV 750 B(F) | 960877V3001 | 1.0 (0.75) | 1.5 (1.13) |

SOGEVAC SV 40 ATEX (Explosion Protected and Pressure Burst Resistant)



IIA version with MR 40 pressure regulator on the suction side and horizontal suction flanges

The SOGEVAC SV 40 ATEX Cat. 1 rotary vane vacuum pumps comply with the European Directive 94/9/EC regarding "Equipment and protective systems for use in potentially explosive atmospheres".

Classification

- Equipment group: II
- Categories: 1 G inside
2 G outside
- Zone: 0 inside
1 outside
- Material group: IIB + H₂ or IIA
- Temperature classes:
 - IIB + H₂ at 50 Hz, T4
at 60 Hz, 160 °C
 - IIA at 50 and 60 Hz, T3

Applications

These pumps are suited for pumping solvents, for drying, filling applications including IIB + H₂ or IIA material groups.

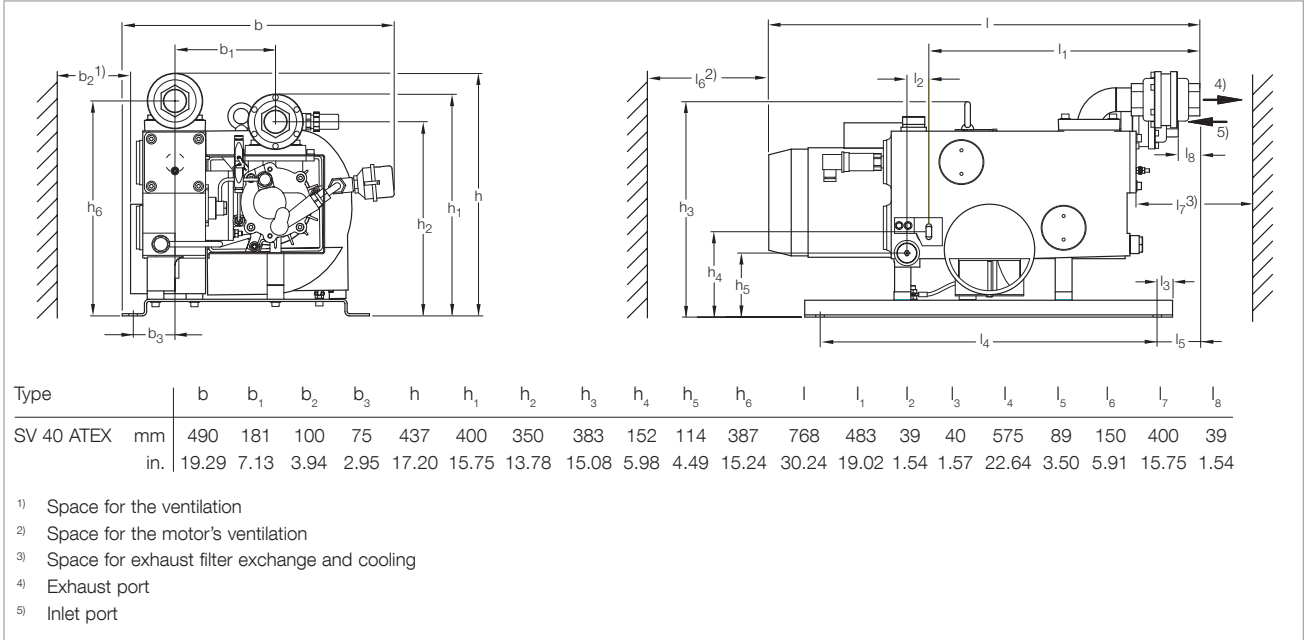
Safety Characteristics

- In order to fulfill the requirements of the safety regulations, the SOGEVAC SV 40 ATEX Cat. 1 pumps are equipped with:
- 1 flame arrester on their suction and exhaust sides
 - 1 pressure transmitter controlling the pressure in the oil casing
 - 1 temperature sensor controlling the pump temperature
 - 1 inlet gas temperature monitoring on the inlet side of the pump (for IIB + H₂ versions only).

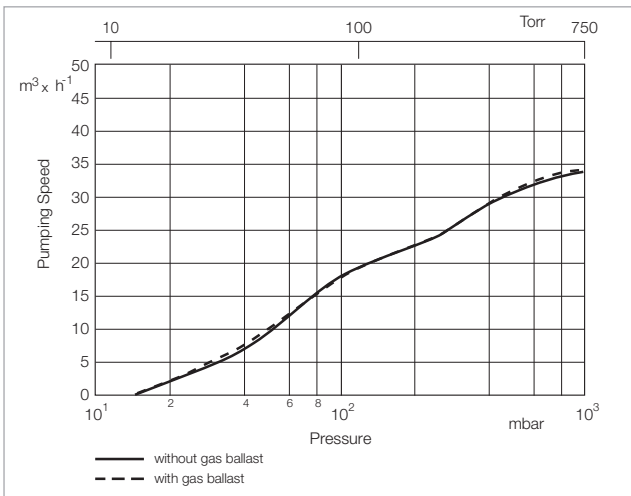
Furthermore, these pumps have an explosion-proof design.

Advantages to the User

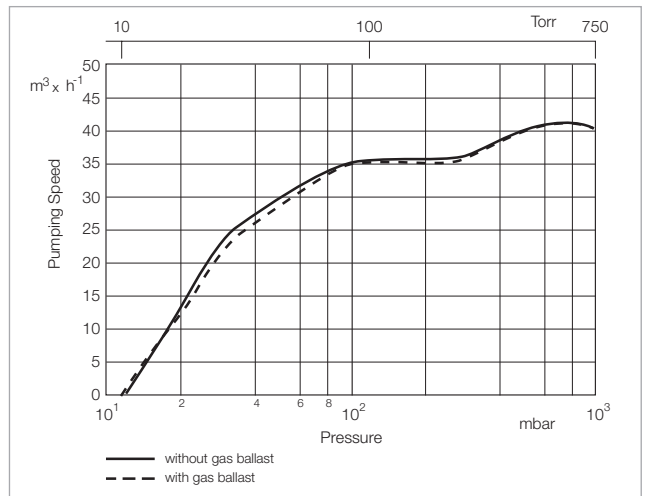
- High pumping speed down to ultimate pressure
- High vapor pumping capability
- Running possible at any pressure, from 1000 mbar (750 Torr) to ultimate pressure
- Integrated and efficient oil mist separation
- Compact design
- Air cooled
- Environment-friendliness (low noise level, no cooling water, low vibration operation)
- Many different designs available



Dimensional drawing for the SOGEVAC SV 40 ATEX with standard motor, European version



Pumping speed characteristics of the SOGEVAC SV 40 ATEX at 50 Hz for gases of the material group IIB + H₂ (60 Hz curves at the end of the chapter)



Pumping speed characteristics of the SOGEVAC SV 40 ATEX at 50 Hz for gases of the material group IIA (60 Hz curves at the end of the chapter)

Technical Data

SOGEVAC SV 40 ATEX

| | | 50 Hz | 60 Hz |
|---|--|---|---|
| Nominal pumping speed | m ³ x h ⁻¹ (cfm) | 46.0 (27.1) | 55.2 (32.5) |
| Pumping speed (according to PNEUROP) | | | |
| IIB + H ₂ | m ³ x h ⁻¹ (cfm) | 26 (15.3) | 29 (17.1) |
| IIA | m ³ x h ⁻¹ (cfm) | 35 (20.6) | 42 (24.7) |
| Ultimate total pressure without gas ballast | | | |
| IIB + H ₂ | mbar (Torr) | 0.8 (0.6) | 0.8 (0.6) |
| IIA | mbar (Torr) | 15.0 (11.3) | 15.0 (11.3) |
| Ultimate total pressure with gas ballast | | | |
| IIB + H ₂ | mbar (Torr) | 1.5 (1.1) | 1.5 (1.1) |
| IIA | mbar (Torr) | 15.0 (11.3) | 15.0 (11.3) |
| Noise level (according to DIN 45 635) | dB(A) | 63 | 68 |
| Water vapor tolerable load with gas ballast | mbar (Torr) | 0.30 (0.23) | 0.30 (0.23) |
| Motor power | kW (hp) | 1.5 (2.0) | 1.8 (2.4) |
| Rated rotational speed | min ⁻¹ (rpm) | 1500 (1500) | 1800 (1800) |
| Standard voltage | V | 230/400 (± 10%) | 460 (± 10%) |
| Type of protection | IP | 55-F | 55-F |
| Leak rate | mbar x l x s ⁻¹ | ≤ 1 x 10 ⁻³ | ≤ 1 x 10 ⁻³ |
| Type of oil | | LVO 210 (IIB + H ₂) or LVO 200 (IIA) | LVO 210 (IIB + H ₂) or LVO 200 (IIA) |
| Oil capacity, approx. | l (qt) | 2 (2.1) | 2 (2.1) |
| Materials (materials in contact with the gas) | | Steel, cast iron, Aluminium, Bronze, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper), epoxy resin & glass fibre | Steel, cast iron, Aluminium, Bronze, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper), epoxy resin & glass fibre |
| Weight (with oil filling) | kg (lbs) | 110 (243) | 110 (243) |
| Connections | | | |
| intake | | | |
| IIB + H ₂ | G | 1 1/4" | 1 1/4" |
| IIA | G | 3/4" | 3/4" |
| exhaust | | | |
| | G | 1 1/4" | 1 1/4" |
| Maximum gas inlet temperature | °C (°F) | 40 (104) | 40 (104) |

Ordering Information

SOGEVAC SV 40 ATEX

| | 50 Hz | 60 Hz |
|--|---------------------|-----------------------|
| | Part No. | Part No. |
| SOGEVAC SV 40 ATEX LA IIB + H ₂ in accordance with 94/9/EC [Ex] II 1/2 G IIB + H ₂ T4 (+5 °C < t _a < 40 °C) EC Type Examination Certificate: PTB04ATEX4013X] with permanent gas ballast | 960 345 | - |
| SOGEVAC SV 40 ATEX LA IIB + H ₂ in accordance with 94/9/EC [Ex] II 1/2 G IIB + H ₂ 160 °C (+5 °C < t _a < 40 °C) EC Type Examination Certificate: PTB04ATEX4013X] with permanent gas ballast | - | 960 345 V 3060 |
| SOGEVAC SV 40 ATEX IIB + H ₂ in accordance with 94/9/EC [Ex] II 1/2 G IIB + H ₂ T4 (+5 °C < t _a < 40 °C) EC Type Examination Certificate: PTB04ATEX4013X] without gas ballast | 960 346 | - |
| SOGEVAC SV 40 ATEX IIB + H ₂ in accordance with 94/9/EC [Ex] II 1/2 G IIB + H ₂ 160 °C (+5 °C < t _a < 40 °C) EC Type Examination Certificate: PTB04ATEX4013X] without gas ballast | - | 960 346 V 3060 |
| SOGEVAC SV 40 ATEX IIB + H ₂ in accordance with 94/9/EC [Ex] II 1/2 G IIB + H ₂ T4 (+5 °C < t _a < 40 °C) EC Type Examination Certificate: PTB04ATEX4013X] with gas ballast and MR 40 pressure regulator | 960 343 | - |
| SOGEVAC SV 40 ATEX IIA in accordance with 94/9/EC [Ex] II 1(i)/ 2(o) G IIA T3 (+5 °C < t _a < 40 °C) EC Type Examination Certificate: PTB04ATEX4011X] without gas ballast | 960 344 | 960 344 V 3060 |
| SOGEVAC SV 40 ATEX IIA in accordance with 94/9/EC [Ex] II 1(i)/ 2(o) G IIA T3 (+5 °C < t _a < 40 °C) EC Type Examination Certificate: PTB04ATEX4011X] without gas ballast, with MR 40 pressure regulator | 960 342 | - |
| Accessories | upon request | upon request |
| Spare Parts | upon request | upon request |

For all enquiries and orders relating to category 1 and 2 ATEX products please exclusively use our ATEX questionnaire. You can find this questionnaire at the end of the full-line catalog together with the fax forms or on the Internet under "www.leybold.com" under Download Documents in the area Documentation.

ATEX Category 2 Pumps

Application

As soon as gases capable of exploding are being pumped or if such gases are present in the vicinity, then the customer must perform a hazard analysis. In Europe, the ATEX Directives 94/9/EC need to be observed in this regard. For equipment in Zone 1, ATEX Category 3 SOGEVAC pumps are available.

Classification

As in the table below.

Safety Precautions

As standard, the pumps are equipped with FPM (FKM) seals, oil filter bypass and oil LEYBONOL LVO 210. Special ATEX exhaust filters, coupling components, motors, floats and final inspections are used, respectively performed. A DN 16 ISO-KF connection for the gas ballast is supplied.

All pumps are equipped with Pt100 temperature, oil level and oil casing pressure sensors. The motors are equipped with PTC thermistors.

SOGEVAC pumps of the following sizes are available:

SV 40 B, SV 65 B, SV 100 B, SV 200, SV 300 B, SV 630 B and SV 750 B

The pumps are supplied with special Operating Instructions (GA), Spare Parts List (ET) and include a CE declaration. This special information must be observed.

LV Restrictions apply for Service and Repairs: please consult us.

Only special accessories (filters, valves, taps) and original spare parts from Leybold must be used.

Advantages to be User

- High pumping speed down to ultimate pressure
- Operation of the pump at all pressures between 1000 mbar (750 Torr) and ultimate pressure is possible
- Integrated and effective separation of oil mist
- Compact design
- Air or water cooled
- Different gas ballast variants: without, manual and permanent upon request
- Available in many different variants, motor voltages, ports etc.

The pumping speed curves for ATEX Category 2 pumps are the same as for non ATEX standard SOGEVAC pumps.

Pump

Ultimate pressure (mbar (Torr))
without gas ballast with gas ballast

| | Part No. | | |
|---|---------------------|-------------|------------|
| SV 40 B air cooled Ex II (j) 2G b IIB + H2 T3 / (o) 2G IIC T4 (10 °C < T _a > 40 °C) X | 960305A22 | 0.5 (0.38) | 1.5 (1.13) |
| SV 65 B air cooled Ex II (j) 2G b IIB + H2 T3 / (o) 2G IIC T4 (10 °C < T _a > 40 °C) X | 960405A22 | 0.5 (0.38) | 1.5 (1.13) |
| SV 100 B air cooled Ex II (j) 2G b IIB + H2 T3 / (o) 2G IIC T4 (10 °C < T _a > 40 °C) X | 960505A22 | 0.5 (0.38) | 1.5 (1.13) |
| SV 120 B air cooled Ex II (j) 2G b IIB + H2 T3 / (o) 2G IIC T4 (10 °C < T _a > 40 °C) X | upon request | 0.5 (0.38) | 1.5 (1.13) |
| SV 200 air cooled Ex II (j) 2G b IIB + H2 T3 / (o) 2G IIC T3 (10 °C < T _a > 40 °C) X | 10927A22 | 0.15 (1.13) | 0.7 (0.53) |
| SV 200 water cooled Ex II (j) 2G b IIB + H2 T3 / (o) 2G IIC T3 (10 °C < T _a > 40 °C) X | 1092702A22 | 0.15 (1.13) | 0.7 (0.53) |
| SV 300 B air cooled Ex II (j) 2G b IIB + H2 T3 / (o) 2G IIC T3 (10 °C < T _a > 40 °C) X | 960702A22 | 0.15 (1.13) | 0.7 (0.53) |
| SV 630 B air cooled Ex II (j) 2G b IIB + H2 T3 / (o) 3GD IIC T3 (150 °C) (10 < T _a > 40 °C) X | upon request | 0.15 (1.13) | 0.7 (0.53) |
| SV 630 BF water cooled Ex II (j) 2G b IIB + H2 T3 / (o) 3GD IIC T3 (150 °C) (10 < T _a > 40 °C) X | upon request | 0.15 (1.13) | 0.7 (0.53) |
| SV 750 B air cooled Ex II (j) 2G b IIB + H2 T3 / (o) 3GD IIC T3 (150 °C) (10 < T _a > 40 °C) X | upon request | 0.15 (1.13) | 0.7 (0.53) |
| SV 750 BF water cooled Ex II (j) 2G b IIB + H2 T3 / (o) 3GD IIC T3 (150 °C) (10 < T _a > 40 °C) X | upon request | 0.15 (1.13) | 0.7 (0.53) |

ATEX outside Dust: upon request. For SV 630 B(F): as on existing Cat 3 pumps.

SV 630 B(F) and SV 750 B(F) are ATEX Cat 3 only outside.

Gas ballast connection: with DN 16 ISO-KF as on Cat 3 pumps. Manual gas ballast is standard.

SV 40 B to SV 120 B with manual gas ballast are T3 inside. Pumps with permanent gas ballast are T4 inside.

Big gas ballast or no gas ballast available upon request.

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ATEX Category 3 Pumps

Application

As soon as gases capable of exploding are being pumped or if such gases are present in the vicinity, then the customer must perform a hazard analysis. In Europe, the ATEX Directives 94/9/EC need to be observed in this regard. For equipment in Zone 2, ATEX Category 3 SOGEVAC pumps are available.

Classification

As in the table below.

Safety Precautions

As standard, the pumps are equipped with FPM (FKM) seals, oil filter bypass and oil LEYBONOL LVO 210. Special ATEX exhaust filters, coupling components, motors, floats and final inspections are used, respectively performed. A DN 16 ISO-KF connection for the gas ballast is supplied.

All pumps are equipped with Pt100 temperature, oil level and oil casing pressure sensors. The motors are equipped with PTC thermistors.

SOGEVAC pumps of the following sizes are available:

SV 40 B, SV 65 B, SV 100 B, SV 200, SV 300 B, SV 630 B and SV 750 B.

The pumps are supplied with special Operating Instructions (GA), Spare Parts List (ET) and include a CE declaration. This special information must be observed.

Only special accessories (filters, valves, taps) and original spare parts from Leybold must be used.

Advantages to be User

- High pumping speed down to ultimate pressure
- Continuous operation of the pump at all pressures between 1000 mbar (750 Torr) and ultimate pressure is possible
- Integrated and effective separation of oil mist
- Compact design
- Air or water cooled
- Environment friendly (low noise and low heat radiation, low vibrations)
- Available in many different variants, motor voltages, ports etc

The pumping speed curves for ATEX Category 3 pumps are the same as for non ATEX standard SOGEVAC pumps.

Pump

Ultimate pressure (mbar (Torr))
without gas ballast with gas ballast

| | Part No. | | |
|---|---------------------|-------------|------------|
| SV 40 B air cooled Ex II (j) 3G IIC T3 / (o) 3 GD IIC T3 (150 °C)(10 < T _a < 40 °C) X | 960305A33 | 0.5 (0.38) | 1.5 (1.13) |
| SV 65 B air cooled Ex II (j) 3 G IIC T3 / (o) 3 GD IIC T3 (150 °C)(10 < T _a < 40 °C) X | 960405A33 | 0.5 (0.38) | 1.5 (1.13) |
| SV 100 B air cooled Ex II (j) 3 G IIC T3 / (o) 3 GD IIC T3 (150 °C)(10 < T _a < 40 °C) X | 960505A33 | 0.5 (0.38) | 1.5 (1.13) |
| SV 200 air cooled Ex II (j) 3 G IIC T3 / (o) 3 GD IIC T3 (150 °C)(10 < T _a < 40 °C) X | 10927A33 | 0.15 (1.13) | 0.7 (0.53) |
| SV 300 B air cooled Ex II (j) 3 G IIC T3 / (o) 3 GD IIC T3 (150 °C)(10 < T _a < 40 °C) X | 960702A33 | 0.15 (1.13) | 0.7 (0.53) |
| SV 630 air cooled Ex II (j) 3 G IIC T3 / (o) 3 GD IIC T3 (150 °C)(10 < T _a < 40 °C) X | 960863A33 | 0.15 (1.13) | 0.7 (0.53) |
| SV 630 BF water cooled Ex II (j) 3 G IIC T3 / (o) 3 GD IIC T3 (150 °C)(10 < T _a < 40 °C) X | 960867A33 | 0.15 (1.13) | 0.7 (0.53) |
| SV 750 B air cooled Ex II (j) 3 G IIC T3 / (o) 3 GD IIC T3 (150 °C)(10 < T _a < 40 °C) X | upon request | 0.15 (1.13) | 0.7 (0.53) |
| SV 750 BF water cooled Ex II (j) 3 G IIC T3 / (o) 3 GD IIC T3 (150 °C)(10 < T _a < 40 °C) X | upon request | 0.15 (1.13) | 0.7 (0.53) |

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Accessories

Double Inlet Filter and Roots Adapter TwinFilter 500 for SOGEVAC SV 470 B(F) and SV 570 B(F)



Double inlet filter and Roots adapter TwinFilter 500

To avoid dust particles in your process use the new double inlet filter and Roots adapter TwinFilter 500.

The TwinFilter replaces the otherwise needed Roots pump adapter to adapt a Roots vacuum pump. The Roots pump can be fitted directly on to the TwinFilter.

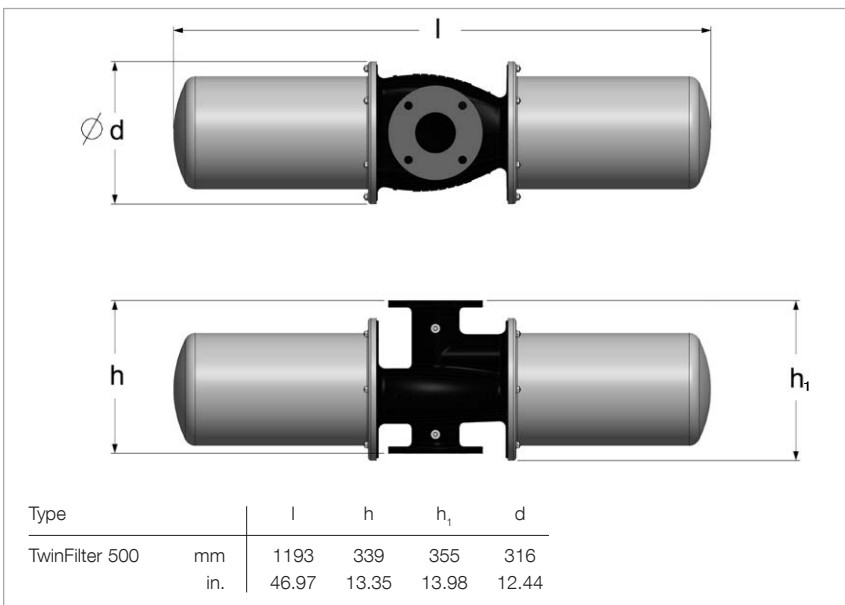
Typical Applications

- Protects the pump against dust and particles
- Compact forevacuum pump combination

Advantages to the User

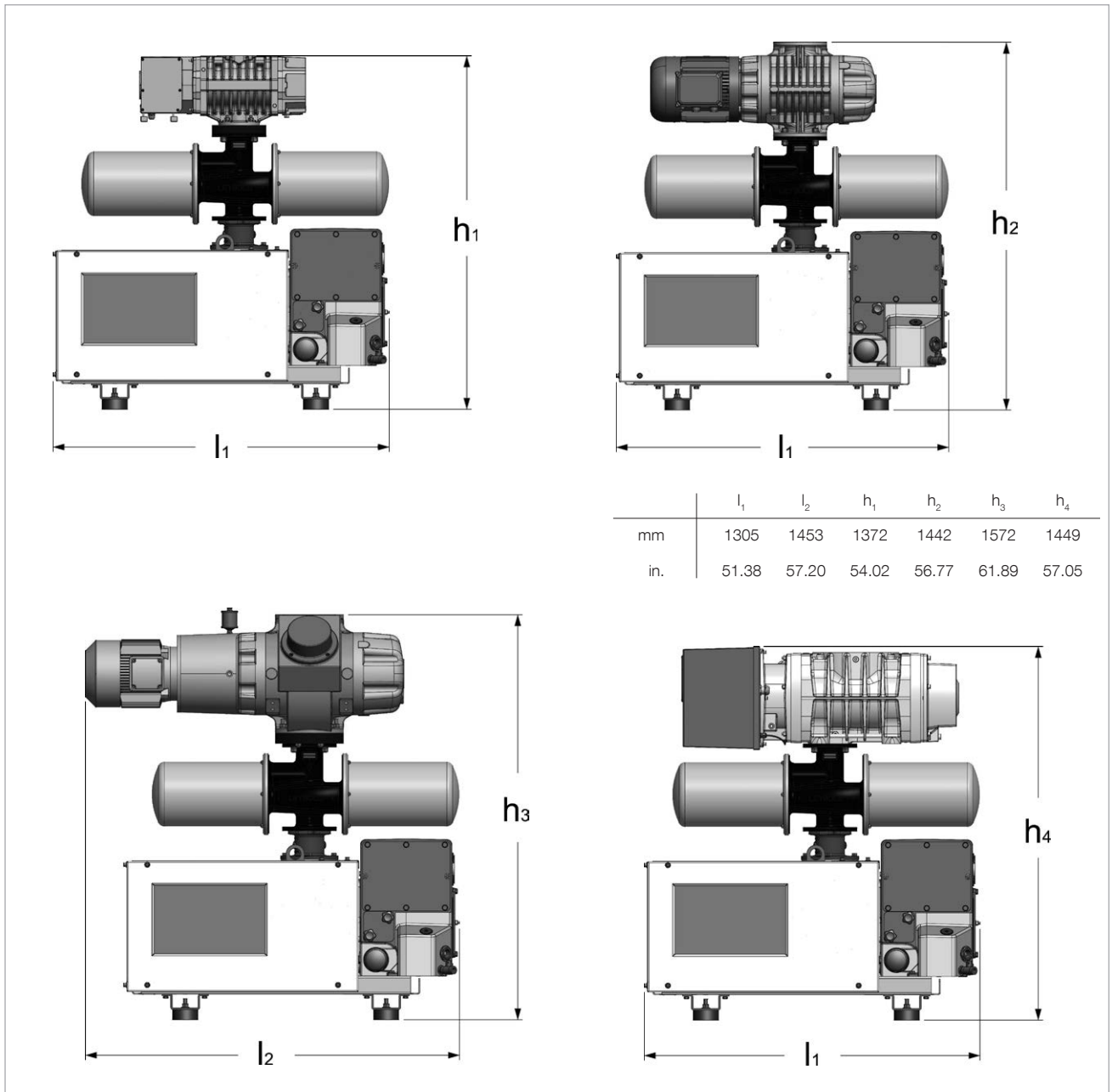
- No external frame required: costs and space savings
- Very compact combinations: space savings yet roughing pump protection

- Allows to have 2 different protection filters in series: more efficient filtration and longer filter life time
- No elbows, bellows, adapters required for filter mounting: cost savings



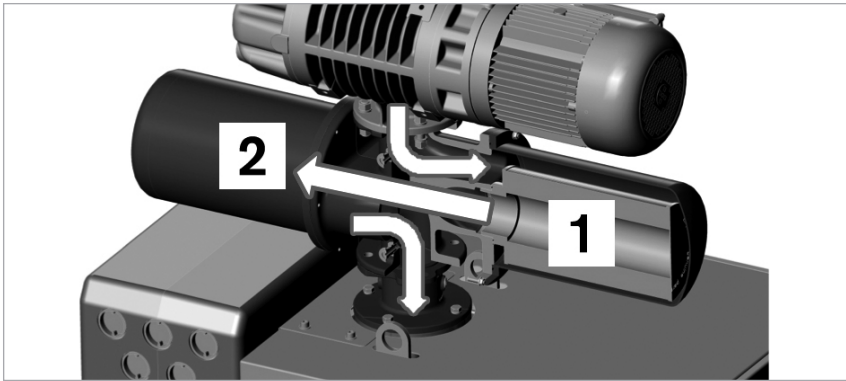
Dimensional drawing for the double inlet filter and Roots adapter TwinFilter 500

Adapter connection options



Ways in which to mount the Roots vacuum pump on the SOGEVAC SV 470 B(F) or SV 570 B(F)
 Top left with RUVAC WH 700/702, top right with RUVAC WA(U)/WS(U) 1001,
 bottom left with RUVAC WA(U) 2001, bottom right with RUVAC WH(U) 2500

Gas flow



The gas passes through the filter (1), then through the filter (2) and then enters the roughing pump.

Gas flow

Selection of the filter cartridges

| Filter type | | | | | |
|---|------------|----------------|-----------------|---------------------------|--------------------|
| | Paper 2 mm | Polyester 2 µm | Polyester 25 µm | Metal 0,09 mm (0.004 in.) | Activated charcoal |
| Applicationen | | | | | |
| Dry processes with dust, powders, chips etc.) | 2 | | 1 | | |
| Wet (vapor) processes with dust, powders, chips etc.) | | 2 | 1 | | |
| Heavy particles, plastics, glass, packaging materials, food stuff, etc. | | 2 | | 1 | |
| Vapors of high molecular weight (solvent, resin and acid vapors, alkaline solutions etc.) | | 2 | | | 1 |

1= Filter No. 1 in the diagram "Gas flow"

2= Filter No. 2 in the diagram "Gas flow"

Technical Data

Double Inlet Filter TwinFilter 500

| Double Inlet Filter and Roots Adapter TwinFilter 500 | Paper Cartridge | Polyester Filter Cartridge | Polyester Filter Cartridge | Metal Cartridge | Active Charcoal Cartridge |
|---|-----------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Particle size / mesh | 2 µm | 2 µm | 25 µm | 0.09 mm (0.004 in.) | |
| Pumping speed ¹⁾ loss by new filters (approx.) | | | | | |
| 100 mbar (75.0 Torr) | < 1% | < 1% | < 1% | < 1% | < 1% |
| 10 mbar (7.5 Torr) | < 1% | < 1% | < 1% | < 1% | < 7% |
| 1 mbar (0.75 Torr) | < 13% | < 6% | < 4% | < 3% | < 33% |
| Efficiency for | | | | | |
| 2 µm particle | 98% | 98% | – | – | – |
| 5 µm particle | 99% | 99% | – | – | – |
| Weight | | | | | |
| Net max. | kg (lbs) | 82 (181) | 82 (181) | 82 (181) | 82 (181) |
| Cover | kg (lbs) | < 10 (< 22) | < 10 (< 22) | < 10 (< 22) | < 10 (< 22) |
| Filter | kg (lbs) | < 10 (< 22) | < 10 (< 22) | < 10 (< 22) | < 10 (< 22) |
| Material | | Cast iron, steel, filter material | Cast iron, steel, filter material | Cast iron, steel, filter material | Cast iron, steel, filter material |

¹⁾ Pumping speed loss of each filter adds up for the total loss

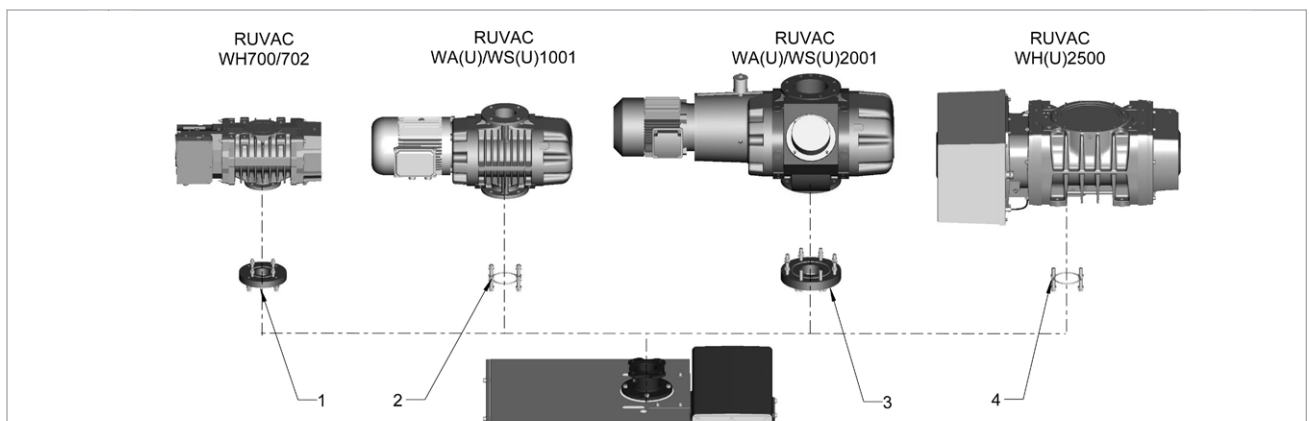
Ordering Information

Double Inlet Filter TwinFilter 500

| Double Inlet Filter and Roots Adapter TwinFilter 500 | Paper Cartridge 2 µm | Polyester Filter Cartridge 2 µm | Polyester Filter Cartridge 25 µm | Metal Cartridge 0.09 mm (0.004 in.) | Active Charcoal Cartridge |
|---|---------------------------|---------------------------------|----------------------------------|-------------------------------------|---------------------------|
| For fitting to SOGEVAC | SV 470 B(F) / SV 570 B(F) | SV 470 B(F) / SV 570 B(F) | SV 470 B(F) / SV 570 B(F) | SV 470 B(F) / SV 570 B(F) | SV 470 B(F) / SV 570 B(F) |
| Part No. 9516248PAPO with paper cartridge and polyester filter cartridge 2 µm | X | X | - | - | - |
| Part No. 9516248PP with polyester filter cartridge 2 µm and 25 µm | - | X | X | - | - |
| Part No. 9516248MAPO with polyester filter cartridge 2 µm and metall cartridge | - | X | - | X | - |
| Part No. 9516248CAPO with polyester filter cartridge 2 µm und aktive charcoal cartridge | - | X | - | - | X |
| Part No. 9516248V without filter | X | X | X | X | X |
| Spare inlet filter Part No. EK95162PA | X | - | - | - | - |
| Spare inlet filter Part No. EK95162PO2 | - | X | - | - | - |
| Spare inlet filter Part No. EK95162PO25 | - | - | X | - | - |
| Spare inlet filter Part No. EK95162MA | - | - | - | X | - |
| Spare inlet filter Part No. EK95162CA | - | - | - | - | X |

Oil Sealed Vacuum Pumps

Roots adapter



Roots adapter connections

Ordering Information

Roots adapter

| | Part No. |
|-------------------------------|-----------------|
| Adapter for Roots vacuum pump | |
| RUVAC WH 700/702 | 9516241V |
| RUVAC WA(U)/WS(U) 1001 | 9516242V |
| RUVAC WA(U)/WS(U) 2001 | 9516243V |
| RUVAC WH(U) 2500 | 9516244V |

Dust Filters (Suction Side)



SOGEVAC SV 40 with connected F 40 dust filter and different types of filter cartridges

The filters consist of a steel housing and a lid with three quick locking clips

Advantages to the User

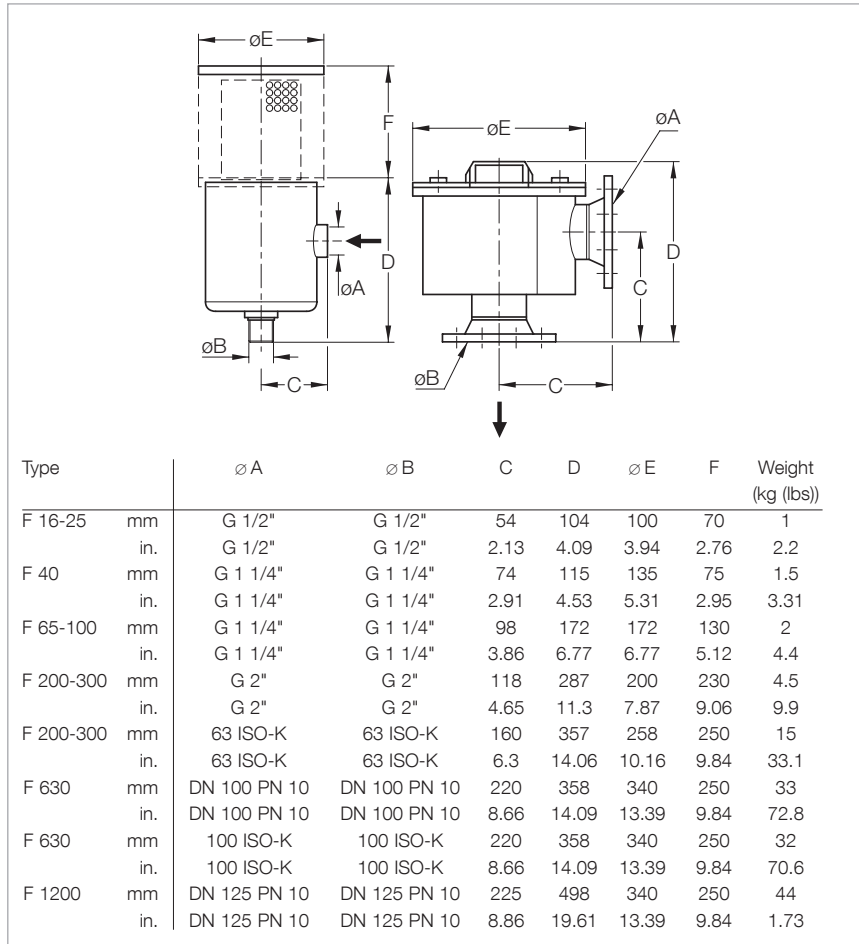
- Same housing for different cartridges
- High separation capacity
- Quickly exchangeable cartridge

Paper Filter Cartridge (Standard)

- Separates particles down to 5 μm (Dry process: dust, powders, chips etc.)

Polyester Filter Cartridge

- Separation of particles down to 5 μm (Moist process: dust, powders, chips etc.)



Dimensional drawing for the dust filters F 16-25 to F 1200

Metal Filter Cartridge

- 0.08 mm (0.003 in.) mesh
- Collects solid particles down to 0.08 mm (0.003 in.) (plastics, paper, packaging materials, foodstuffs)

Activated Charcoal Cartridge

- Absorbs vapors of high molecular weight (solvent and acid vapors, alkaline solutions etc.)

Technical Notes

We recommend installing the filters horizontally on a 90° bend. This will prevent separated particles from falling into the intake line when disassembling the filter.

When using an activated charcoal filter it is recommended to also install a paper cartridge filter between the pump and the activated charcoal.

Technical Data**Dust Filter**

| Dust Filter | Paper Cartridge | Polyester Filter Cartridge | Metal Cartridge | Activated Charcoal Cartridge |
|--|-----------------|----------------------------|-----------------|------------------------------|
| Pumping speed reduction through a clean filter | 2% | 2% | 1% | 2% |
| Efficiency for 5 µm particles | 98% | 98% | – | – |

Ordering Information**Dust Filter**

| Dust Filter | Part No. | Part No. | Part No. | Part No. |
|--|-------------------|----------------------------|---------------------|------------------------------|
| Dust Filter | Paper Cartridge | Polyester Filter Cartridge | Metal Cartridge | Activated charcoal Cartridge |
| F 16-25 for pumps from 10 to 25 m ³ /h (G 1/2") | 951 50 | 711 27 094 | 711 27 093 | 711 27 092 |
| Spare cartridge for F 16-25 | 710 40 760 | 712 61 288 | E 710 65 813 | E 710 65 713 |
| F 40 for SV 40 B (G 1 1/4") | 951 55 | 711 27 104 | 711 27 103 | 711 27 102 |
| Spare cartridge for F 40 | 710 46 118 | 712 61 298 | 710 49 083 | 710 49 103 |
| F 65-100 for SV 65 B, SV 100 B (G 1 1/4") | 951 60 | 711 27 114 | 711 27 113 | 711 27 112 |
| Spare cartridge for F 65-100 | 712 13 283 | 712 61 308 | E 712 13 324 | E 712 13 304 |
| F 200-300 for SV 200, SV 300 B (G 2") | 951 65 | 711 27 124 | 711 27 123 | 711 27 122 |
| F 200-300 for SV 200, SV 300 B (DN 63 ISO-K) | 951 68 | 711 27 127 | 711 27 126 | 711 27 125 |
| Spare cartridge for F 200-300 (G 2" or DN 63 ISO-K) | 712 13 293 | 712 61 318 | 712 13 334 | E 712 13 314 |
| F 630 for SV 630 (B/F), SV 750 (B/F) (DN 100 PN 10) | 951 71 | 711 27 164 | 711 27 163 | 711 27 162 |
| F 630 for SV 630 (B/F), SV 750 (B/F) (DN 100 ISO-K) | 951 72 | 711 27 168 | 711 27 167 | 711 27 166 |
| Spare cartridge for F 630 (DN 100 PN 10 or DN 100 ISO-K) | 710 35 242 | 712 61 508 | E 710 37 734 | 710 37 724 |
| F 1200 for SV 1200 (DN 125 PN 10) | 951 75 | 711 27 144 | 711 27 143 | 711 27 142 |
| Spare cartridge for F 1200 (2x required) | 710 35 242 | 712 61 508 | E 710 37 734 | 710 37 724 |
| Spare Parts | | | | |
| Set of gaskets for F 16-25 | NBR (Buna N) | 714 10 820 | 714 10 820 | 714 10 820 |
| Set of gaskets for F 40 | NBR (Buna N) | 714 10 830 | 714 10 830 | 714 10 830 |
| Set of gaskets for F 65-100 | NBR (Buna N) | 714 10 840 | 714 10 840 | 714 10 840 |
| Set of gaskets for F 200-300 | NBR (Buna N) | 714 10 850 | 714 10 850 | 714 10 850 |
| O-ring gasket for F 630 / F 1200 | NBR (Buna N) | 712 41 032 | 712 41 032 | 712 41 032 |

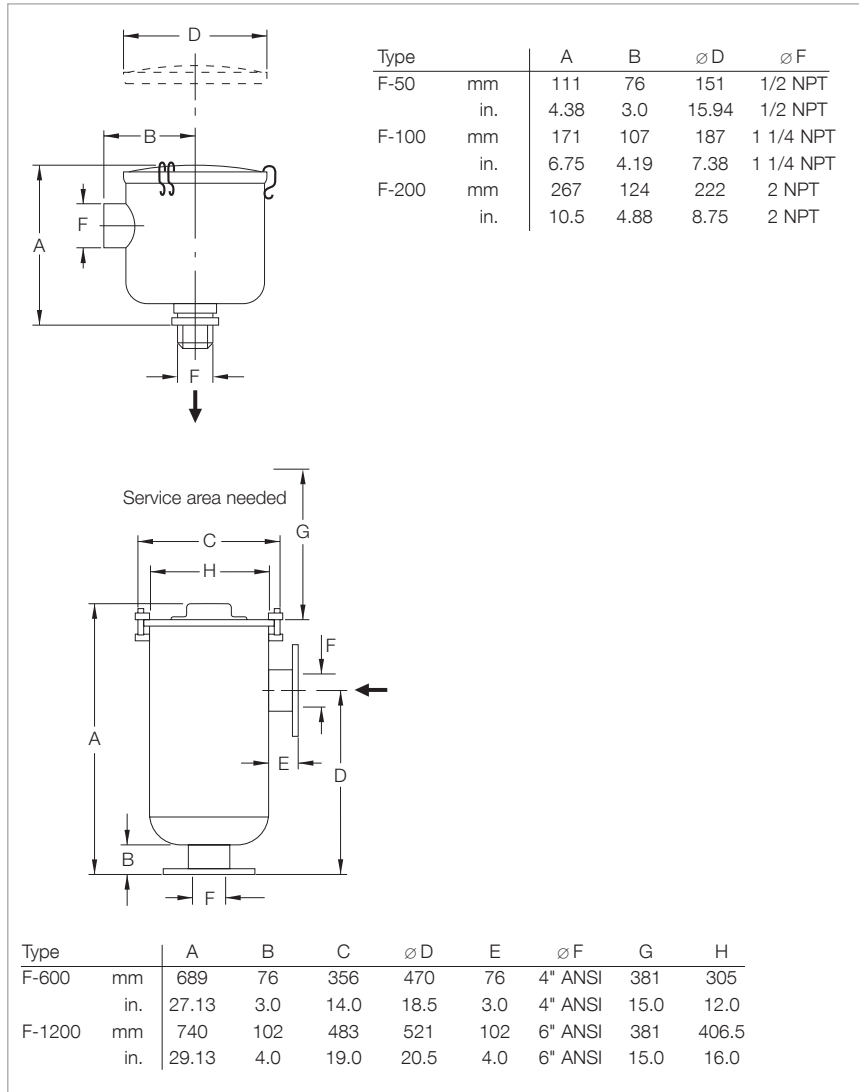
Only available for purchase in North and South America

Dust Filters F (Suction Side)



SOGEVAC SV 40 with connected F-100 dust filter and different types of filter cartridges

High efficiency F filters are recommended for use at the inlet of SOGEVAC rotary vane vacuum pumps for protection against process contaminants, e.g., fiberglass particles, plastic dusts, resins and food-processing by-products. The filters are available with easily replaceable cartridge elements for particle filtration of dusts and particulates down to one microns, or activated carbon elements for the adsorption of chemical vapor.



Dimensional drawings for the dust filters F 50 to F 200 (top) and F 600 to F 1200 (bottom)

Technical Data**Dust Filter**

| Dust Filter | Polyester Filter Cartridge | Metal Cartridge | Paper Cartridge | Activated Charcoal Cartridge |
|---|----------------------------|-----------------|-----------------|------------------------------|
| New cartridge pumping speed reduction | 2% | 1% | 2% | 2% |
| Efficiency for 1 µm particulates | 98% | – | 99% | – |
| Filter for SV 16 (B), SV 25 (B), UV 25 | – | – | F-50 | – |
| Filter for SV 40 (B), SV 65 (B), SV 100 (B) | – | F-100 | F-100 | F-100 |
| Filter for SV 200, 300 B | – | F-200 | F-200 | F-200 |
| Filter for SV 500 (B), 630 (B/F) | F-600 | – | – | – |
| Filter for SV 1200 | F-1200 | – | – | – |

Ordering Information**Dust Filter**

| | Part No. | Part No. | Part No. | Part No. |
|--------------------------------|----------------------------|-------------------|-------------------|------------------------------|
| Dust Filter | Polyester Filter Cartridge | Metal Cartridge | Paper Cartridge | Activated Charcoal Cartridge |
| F-50 | – | – | 899 460 | – |
| Replacement element for F-50 | – | – | E 899 461 | – |
| F-100 | – | 898 527 | 898 528 | 898 529 |
| Replacement element for F-100 | – | 704 44 400 | 704 13 901 | 704 13 906 |
| F-200 | – | 898 530 | 898 531 | 898 532 |
| Replacement element for F-200 | – | 704 45 400 | 704 14 901 | 704 14 908 |
| F-600 | 898 470 | – | – | – |
| Replacement element for F-600 | 898 471 | – | – | – |
| F-1200 | 898 475 | – | – | – |
| Replacement element for F-1200 | 898 476 | – | – | – |

SL Liquid Traps



SOGEVAC SV 40 with SL 40 liquid trap

The SL 16-25 liquid trap consists of a collection vessel made of transparent plastic.

Liquid traps SL 40 to SL 1200 are welded steel collection vessels acting as liquid traps. These are equipped with connecting threads.

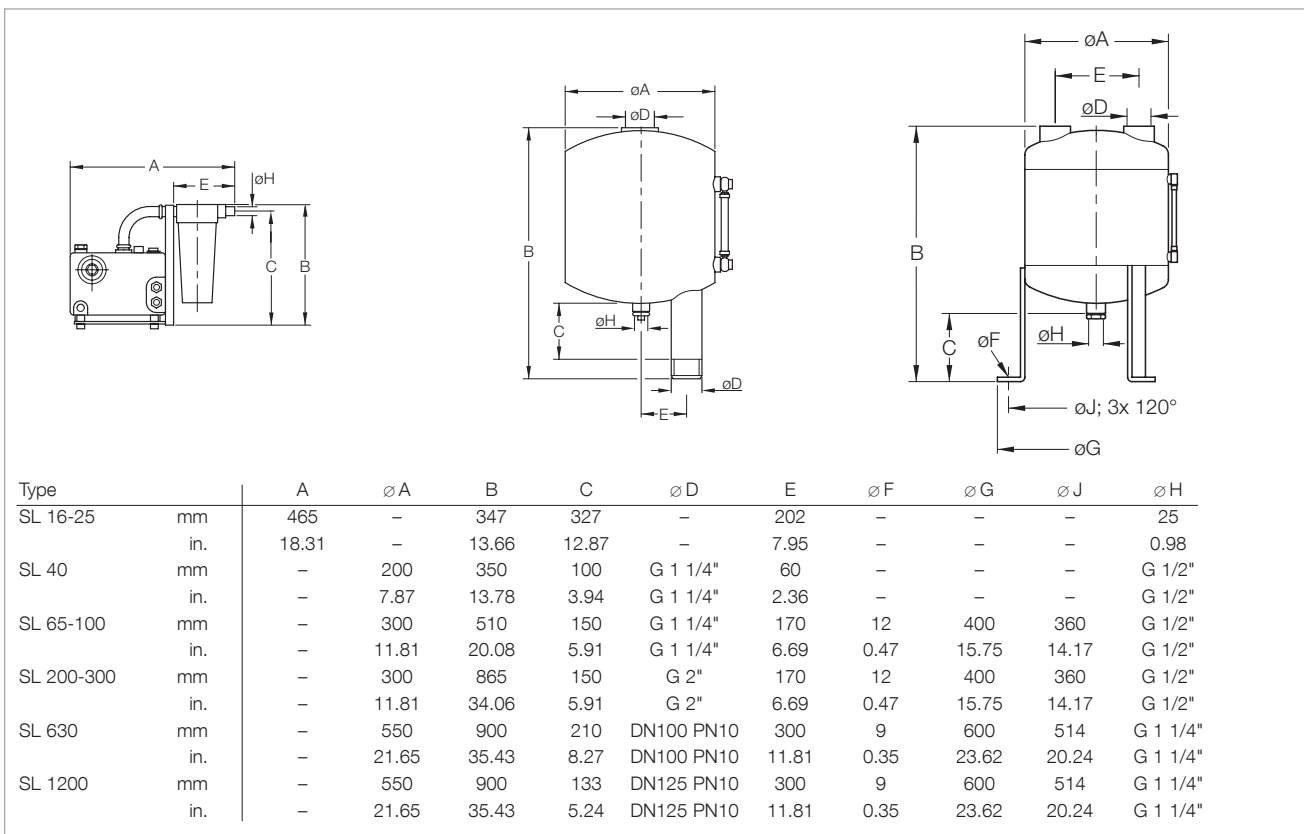
Liquid traps SL 630 and SL 1200 are equipped with a cleaning port DN 150 PN 10.

Advantages to the User

- Protection of the pumps against liquids which might condense in the intake or the exhaust line when pumping vapors

Technical Notes

The liquid traps are equipped with a sight glass tube, so that it is easy to determine when to empty the vessels. The liquid drain is sealed by a screw-in cap. This cap may be replaced by a drain valve.



Dimensional drawings for the liquid traps; SL 16-25 (left), SL 40 (middle) and SL 65-100 up to SL 1200 (right)

Technical Data

| | | SL 16-25 | Liquid Traps SL 40 | SL 65-100 |
|---------------------|----------|---|-------------------------------|--------------------|
| For pump | SOGEVAC | for pumps from 10 to 25 m ³ /h | SV 40 B | SV 40 B/65 B/100 B |
| Condensate capacity | l (qt) | 2.0 (2.1) | 4.0 (4.2) | 16.0 (16.9) |
| Weight | kg (lbs) | 3.5 (7.7) | 5.0 (11.0) | 11.0 (24.3) |

Ordering Information

| | SL 16-25 | Liquid Traps SL 40 | SL 65-100 |
|--|-----------------|-------------------------------|--------------------|
| | Part No. | Part No. | Part No. |
| Liquid trap | 951 38 | 951 40 | 951 42 |
| Liquid trap with electrical level switch | - | - | 951 429 901 |
| Drain valve | - | 711 30 111 | 711 30 113 |

Technical Data

| | | SL 200-300 | Liquid Traps SL 630 | SL 1200 |
|---------------------|----------|-------------------|--------------------------------|----------------------------|
| For pump | SOGEVAC | SV 200/300 B | SV 500/630/750 (B)(F) | SV 500/630/750 (B)(F)/1200 |
| Condensate capacity | l (qt) | 40.0 (42.3) | 80.0 (84.6) | 80.0 (84.6) |
| Weight | kg (lbs) | 17.0 (37.5) | 58.0 (127.9) | 59.0 (130.1) |

Ordering Information

| | SL 200-300 | Liquid Traps SL 630 | SL 1200 |
|--|------------------------|--------------------------------|-------------------|
| | Part No. | Part No. | Part No. |
| Liquid trap | 951 44 | 951 47 | 951 48 |
| Liquid trap with electrical level switch | 951 449 900 001 | - | - |
| Drain valve | 711 30 113 | 711 30 105 | 711 30 105 |
| Double spigot for drain valve | - | 711 18 033 | 711 18 033 |

Only available for purchase in North and South America

Technical Data

| | | SL 16-25 | Liquid Traps SL 40 | SL 65-100 |
|---------------------|----------|---|-------------------------------|--------------------|
| For pump | SOGEVAC | for pumps from 10 to 25 m ³ /h | SV 40 B | SV 40 B/65 B/100 B |
| Condensate capacity | l (qt) | 2.0 (2.1) | 4.0 (4.2) | 16.0 (16.9) |
| Weight | kg (lbs) | 3.5 (7.7) | 5.0 (11.0) | 11.0 (24.3) |

Ordering Information

| | SL 16-25 | Liquid Traps SL 40 | SL 65-100 |
|--|---------------------|-------------------------------|---------------------|
| | Part No. | Part No. | Part No. |
| Liquid trap | 951 38 (BSP) | 951 40 (NPT) | 951 43 (NPT) |
| Liquid trap with electrical level switch | - | - | 951 429 901 |
| Drain valve | - | 711 30 111 | 711 30 113 |

Technical Data

| | | SL 200-300 | Liquid Traps SL 630 | SL 1200 |
|---------------------|----------|-------------------|--------------------------------|----------------------------|
| For pump | SOGEVAC | SV 200/300 B | SV 500/630/750 (B)(F) | SV 500/630/750 (B)(F)/1200 |
| Condensate capacity | l (qt) | 40.0 (42.3) | 80.0 (84.6) | 80.0 (84.6) |
| Weight | kg (lbs) | 17.0 (37.5) | 58.0 (127.9) | 59.0 (130.1) |

Ordering Information

| | SL 200-300 | Liquid Traps SL 630 | SL 1200 |
|--|------------------------|--------------------------------|---------------------|
| | Part No. | Part No. | Part No. |
| Liquid trap | 951 45 (NPT) | 951 47 (BSP) | 951 48 (BSP) |
| Liquid trap with electrical level switch | 951 449 900 001 | - | - |
| Drain valve | 711 30 113 | 711 30 105 | 711 30 105 |
| Double spigot for drain valve | - | 711 18 033 | 711 18 033 |

SEP Separators / SEPC Condensers



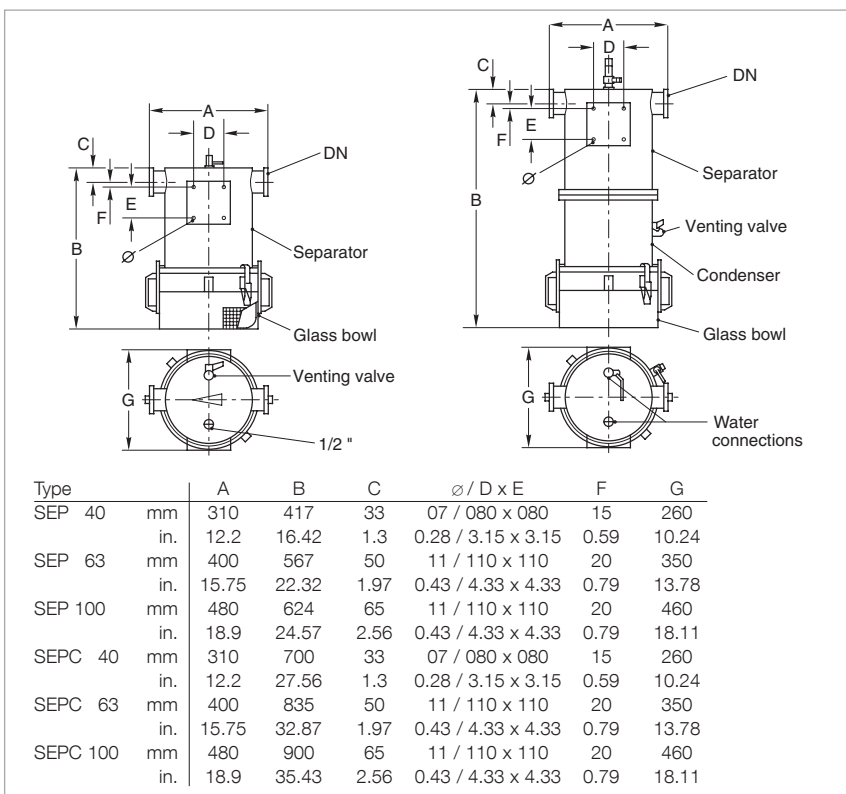
The separators from the SEP and the condensers from the SEPC range have been designed to be integrated in the vacuum circuit. They are employed in all those cases where the pumped gases may contain liquid drops (SEP), condensable vapors (SEPC) or solid particles which may impair proper operation of the pumps.

Advantages to the User

- Large capacity for solids
- Large condensation surface (SEPC)
- Visible level
- Easy to disassemble for cleaning
- Easy to drain, even in the presence of solids

Typical Applications

- Draining (SEP)
- Packaging (SEP)
- Conveying/filling under vacuum (SEP/SEPC)
- Drying (SEPC)
- Degassing (SEPC)
- and many more



Dimensional drawings for the separators (left) and condensers (right)

Technical Data**Separator**

| | | SEP 40 | SEP 63 | SEP 100 |
|----------------------|-----------------|--------------------|---------------|----------------|
| For pump | SOGEVAC | SV 40 B/65 B/100 B | SV 200/300 B | SV 630 (F)/750 |
| Connection flange | DN | 40 ISO-KF | 63 ISO-K | 100 ISO-K |
| Capacity of the bowl | l (qt) | 6.0 (6.3) | 12.0 (12.7) | 12.0 (12.7) |
| Weight | kg (lbs) | 15.0 (33.1) | 20.0 (44.1) | 40.0 (88.2) |

Ordering Information**Separator**

| | | SEP 40 | SEP 63 | SEP 100 |
|------------------------|--|-------------------|-------------------|-------------------|
| | | Part No. | Part No. | Part No. |
| Steel design | | 953 54 | 953 56 | 953 60 |
| Stainless steel design | | 953 55 | 953 57 | 953 61 |
| Support | | 712 43 380 | 712 43 380 | 712 43 380 |

Technical Data**Condenser**

| | | SEPC 40 | SEPC 63 | SEPC 100 |
|---------------------------------------|----------------------|--------------------|----------------|-----------------|
| For pump | SOGEVAC | SV 40 B/65 B/100 B | SV 200/300 B | SV 630 (F)/750 |
| Connection flange | DN | 40 ISO-KF | 63 ISO-K | 100 ISO-K |
| Capacity of the bowl | l (qt) | 6.0 (6.3) | 12.0 (12.7) | 12.0 (12.7) |
| Condensation area | m² | 2.5 | 5.0 | 5.0 |
| Condensation capacity ¹⁾ | l/h | 10 | 20 | 20 |
| Cooling water flow rate ²⁾ | l/h | 1500 | 3000 | 3000 |
| Water connection dia. | mm (in.) | 19.0 (0.75) | 19.0 (0.75) | 19.0 (0.75) |
| Weight | kg (lbs) | 30.0 (66.2) | 40.0 (88.2) | 65.0 (143.3) |

Ordering Information**Condenser**

| | | SEPC 40 | SEPC 63 | SEPC 100 |
|------------------------|--|-------------------|-------------------|-------------------|
| | | Part No. | Part No. | Part No. |
| Steel design | | 953 64 | 953 66 | 953 68 |
| Stainless steel design | | 953 65 | 953 67 | 953 69 |
| Support | | 712 43 380 | 712 43 380 | 712 43 380 |

¹⁾ For water vapor at a vapor pressure of 60 mbar (45 Torr)

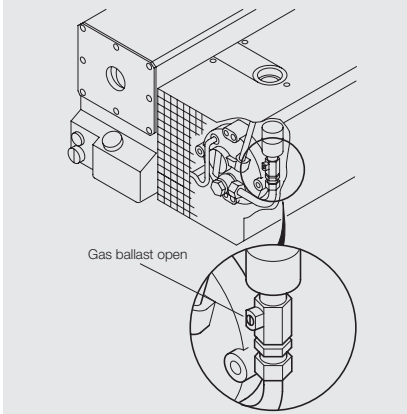
²⁾ Cooling water at a supply temperature of 10 °C (50 °F) and a discharge temperature < 15 °C (< 59 °F)

Remark: The stainless steel condensers have a copper heat exchanger coil

If required, the following products from the Catalog Part "Oil Sealed Vacuum Pumps TRIVAC" can be used for the small pumps SOGEVAC SV 10 to SV 25: condensate traps / separator AK, chapter "Accessories for TRIVAC".

Condensers for the large pump SOGEVAC SV 1200 upon request

Gas Ballast Valve



The pumps SOGEVAC SV 10 B, SV 16 B and SV 25 B are equipped depending of their Part No. without or with a permanent gas ballast.

The pumps SOGEVAC SV 16, SV 25, SV 40 B, SV 65 B, SV 100 B, SV 500 B(F), SV 630 B(F) and SV 750 B(F) are equipped depending of their Part No. without or with a manual, permanent or solenoid gas ballast.

The SV 1200 is equipped as standard with two manual gas ballast valves.

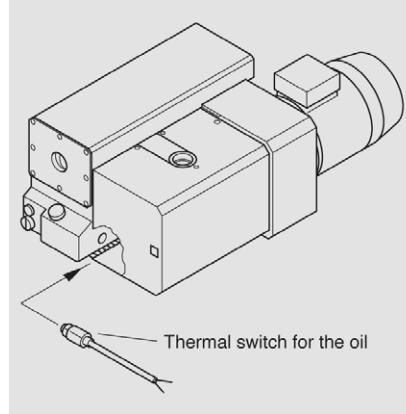
The gas ballast valve may also easily be retrofitted to the SV 40, SV 65, SV 100, SV 200 and SV 300 (either standard, large or solenoid).

Technical Notes

The gas ballast valve permits pumping of condensable vapors.

The permissible quantities of water are stated in the technical data section.

Thermal Switch



The thermal switch is installed at the hottest point of the pump module. It responds as soon as the temperature of the pump exceeds the maximum operating temperature. This accessory is recommended when operating the pump at high ambient temperatures.

Ratings for the normally closed contact:

25 V AC, 50 Hz - 5 A

60 V DC - 3 A

The SV 500, SV 630, SV 750 B(F) and SV 1200 include this switch as a standard.

Ordering Information

Accessories

| | | Part No. | Part No. | Part No. | Part No. | Part No. |
|--|---------|-------------------|---------------|--------------------------------|---------------------|---------------------|
| For pump | SOGEVAC | SV 16 (B)/25 | SV 16 BI | SV 25 B | SV 28 BI | SV 40 B |
| Gas ballast valve (standard) | | integrated | ¹⁾ | integrated | 971 462 640 | ²⁾ |
| Thermal switch | | – | ²⁾ | ²⁾ | upon request | ³⁾ |
| Oil level monitor | | 711 19 108 | ²⁾ | ²⁾ | upon request | 711 19 110 |
| Gas ballast big | | – | ²⁾ | ²⁾ ⁵⁾ | – | ⁴⁾ |
| Gas ballast, electromagnetic with 24 V DC valve | | – | – | – | upon request | upon request |
| Exhaust filter monitoring switch | | – | – | – | – | 971 425 890 |

Ordering Information

Accessories

| | | Part No. | Part No. | Part No. | Part No. |
|--|---------|---------------------|---------------------|---------------------|--------------------------|
| For pump | SOGEVAC | SV 40 BI | SV 65 B | SV 100/120 B | SV 200 ^{3), 8)} |
| Gas ballast valve (standard) | | ¹⁾ | ¹⁾ | ¹⁾ | 951 29 |
| Thermal switch | | ³⁾ | ³⁾ | ³⁾ | 951 36 |
| Oil level monitor | | 711 19 110 | 711 19 110 | 711 19 110 | 953 96 |
| Gas ballast, big | | – | ⁶⁾ | ⁷⁾ | 951 30 |
| Gas ballast, electromagnetic with 24 V DC valve | | upon request | upon request | upon request | 951 31 |
| Exhaust filter monitoring switch | | 971 425 890 | 971 425 890 | 971 425 890 | 712 22 360 |

Ordering Information

Accessories

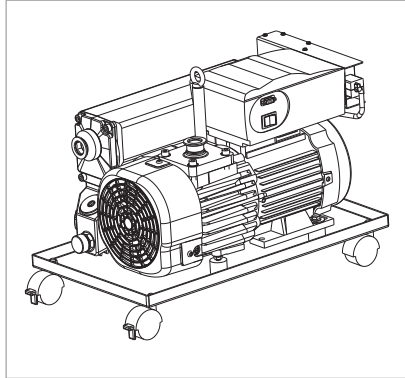
| | | Part No. | Part No. | Part No. |
|--|---------|----------------------------------|--|-----------------------------------|
| For pump | SOGEVAC | SV 300 B | SV 500 B(F), SV 630 B(F), 750 B(F) ^{3), 8)} | SV 1200 |
| Gas ballast valve (standard) | | 971 464 130 ⁹⁾ | integrated (24 V DC) | integrated (manual) |
| Thermal switch | | 971 463 930 | integrated | integrated |
| Oil level monitor | | upon request | 971 425 760 | 953 99 |
| Gas ballast kit | | 971 464 130 ⁹⁾ | – | – |
| Gas ballast, electromagnetic with 24 V DC valve | | upon request | 971 438 170 | upon request ³⁾ |
| Exhaust filter monitoring switch | | upon request | 712 22 360 | 712 22 360 |

¹⁾ According to variant²⁾ Can not be retrofitted³⁾ Please state when ordering the pump⁴⁾ See pump with Part No. 960 305 V 2040⁵⁾ See pump with Part No. 960 251 V 2040⁶⁾ See pump with Part No. 960 405 V 0040⁷⁾ See pump with Part No. 960 505 V 2040⁸⁾ Second gas ballast possible. Contact Leybold⁹⁾ SV 300 B gas ballast kit (Part No. 971 464 130) includes all parts for small, standard and big gas flow

Mobile Base Frame



Mobile base frame

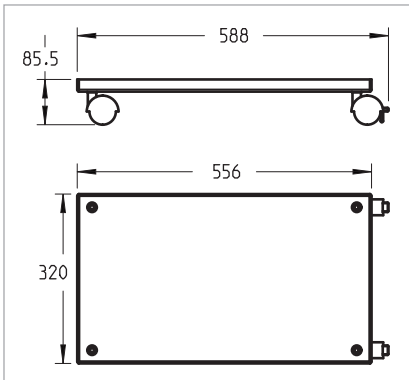


SOGEVAC pump upon mobile base frame

The mobile base frame allows moving easily single and double stage rotary vane pumps up to 65 m³/h and facilitates therefore their maintenance.

The oil tight base frame allows to hold up to 2 l (2,1 qt) oil and has swivable casters of which 2 have breaks.

The base frame doesn't alter the pump noise and facilitates oil draining and pump displacement.



Dimensional drawing for the mobile base frame

Technical Data

Mobile Base Frame

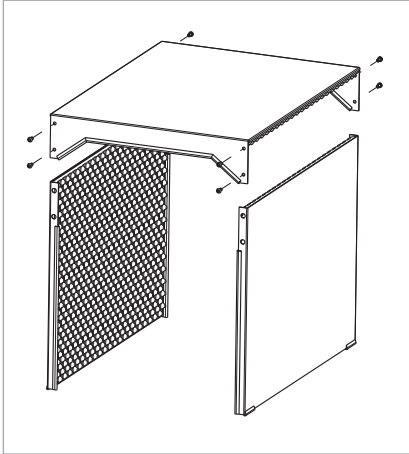
| | | |
|---------------------------|----------|-----------------|
| Net weight, approx. | kg (lbs) | 3 (7) |
| Max. load | kg (lbs) | 90 (200) |
| Oil recovery volume, max. | l (qt) | 2 (2.1) |
| Caster diameter | mm (in) | 50 (2) |
| Material oil pan | | Stainless steel |

Ordering Information

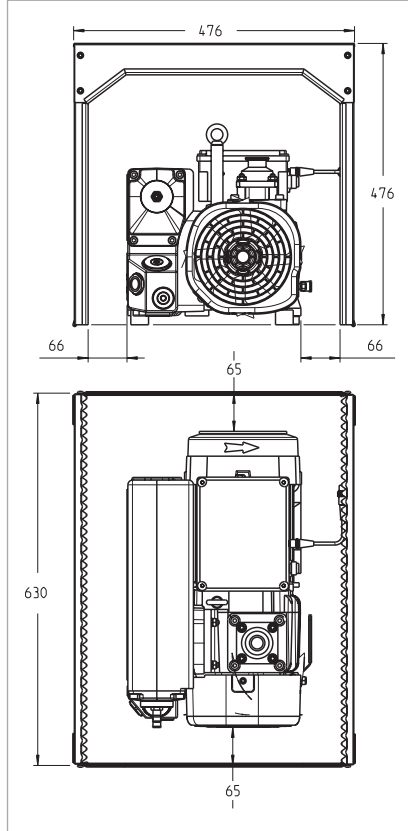
Mobile Base Frame

| | | Part No. |
|-------------------|---------|--|
| For pump | SOGEVAC | Single and double stage pumps up to 65 m ³ /h |
| Mobile base frame | | 960 331 BASE |

Noise Enclosure



Noise enclosure



Dimensional drawing for the noise enclosure

Leybold has developed a specific noise enclosure for vacuum pumps, which reduce the noise level by approx. 5 dB(A) and which makes sure the pump doesn't overheat due to the open design on both sides.

A combination with the mobile base frame is possible.

Technical Data

Noise Enclosure

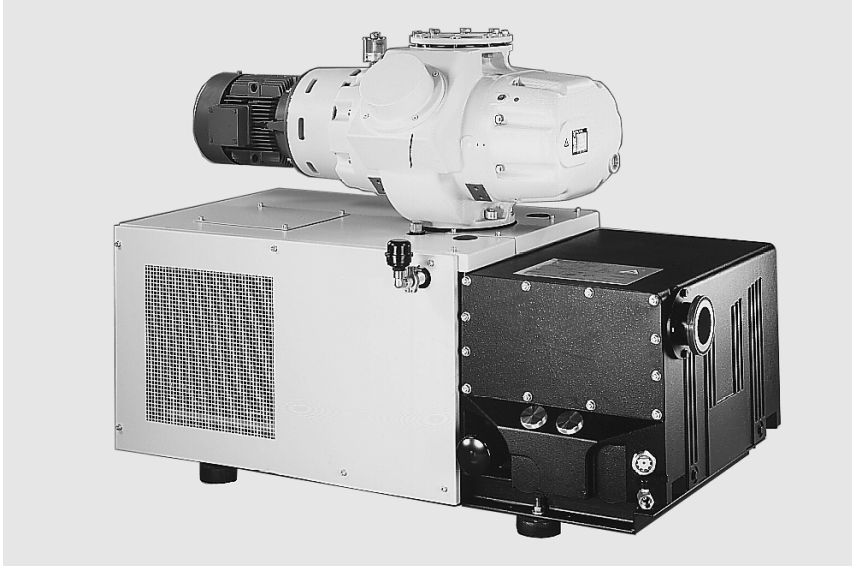
| | | |
|---|----------|------------------------------------|
| Net weight, approx. | kg (lbs) | 5 (11) |
| Noise reduction, approx. | dB(A) | 5 |
| Temperature increase below top, max. | °C (°F) | 7 (45) |
| Ambient temperature , max. | °C (°F) | 34 (93) |
| Material frame absorption foam material | | Galvanised steel acc. UL-94 HF1 |

Ordering Information

Noise Enclosure

| | | Part No. | Part No. |
|-----------------|---------|---|--|
| For pumps | SOGEVAC | Single stage rotary vane pumps up to 65 m ³ /h and double stage rotary vane pumps up to 25 m ³ /h - | - Single stage rotary vane pumps up to 120 m ³ /h and double stage rotary vane pumps up to 65 m ³ /h |
| Noise enclosure | | 960 331 NENC | 960 560 NENC |

Mounting Accessories



SOGEVAC SV 630 F with RUVAC WAU 2001



SOGEVAC SV 200 with RUVAC WAU 501

Ordering Information

Mounting Accessories

| | | Part No. | Part No. | Part No. | Part No. | Part No. |
|-----------------------------------|---------|-------------------|-------------------|-------------------|-------------------|-------------------|
| For pump | SOGEVAC | SV 16 BI | SV 25 B | SV 28 BI | SV 40 B | SV 40 BI |
| Oil drain valve G 3/4" | | 711 30 114 | 711 30 114 | 711 30 114 | 711 30 114 | 711 30 114 |
| Base frame for Roots installation | | not possible | not possible | not possible | not possible | not possible |

Ordering Information

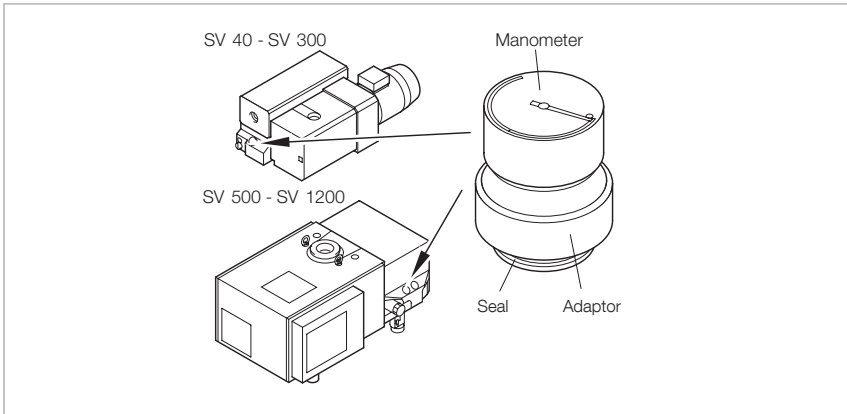
Mounting Accessories

| | | Part No. | Part No. | Part No. | Part No. |
|-----------------------------------|---------|--------------------|----------------------------------|---------------------------------|---------------------|
| For pump | SOGEVAC | SV 40 + SV 65 B | SV 100 B | SV 200 | SV 300 B |
| Base frame | | 971 453 840 | 971 434 000 | 711 19 208 | 711 19 208 |
| Oil drain valve G 3/4" | | 711 30 114 | 711 30 114 | 711 30 114 | 711 30 114 |
| Bracket for electric connections | | - | - | 711 19 226 | upon request |
| Base frame for Roots installation | | not possible | 971 448 830 ¹⁾ | 711 19 209 ²⁾ | 971 456 590 |

¹⁾ Mandatory for direct Roots mounting

²⁾ Required for mounting the WAU 1001 on to the SV 200

Exhaust Filter Gauge



The manometer (40 mm (1.58 in.) dia.), glued in the adapter, is installed instead of the oil filling plug. Dial has 2 colors:

green: $1000 < p < 1450$ mbar abs.
($760 < p < 1090$ Torr abs.)
Exhaust filter OK

red: $p > 1450$ mbar abs.
(> 1090 Torr abs.)
Exhaust filter clogged

Technical Notes

The reliability of the manometer applies only provided the pump has attained its operating temperature and when the intake pressure is high.

Ordering Information

Exhaust Filter Gauge

| | | Part No. | Part No. | Part No. |
|-----------------------------------|---------|--|---|-----------------------|
| For pump | SOGEVAC | SV 10 B to SV 65 B, SV 16 BI, SV 28 BI and SV 40 BI | SV 100 B to SV 300 B, SV 500 B(F) to SV 750 B(F) | SV 1200 ¹⁾ |
| Manometer (with adaptor and seal) | | 951 93 | 951 94 | 951 95 |

¹⁾ Not visible from outside

Ball Valves and Valves



Ball valve 1 1/4"

Advantages to the User

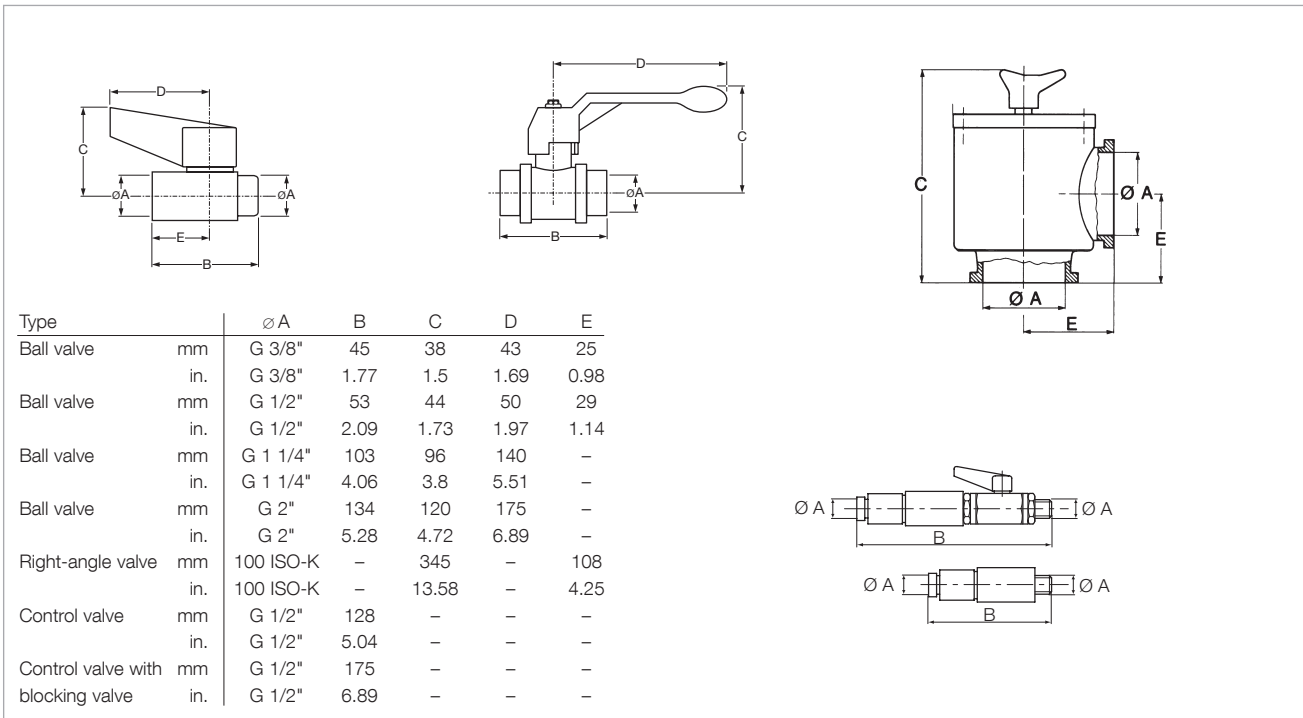
- Leak rate $< 1 \times 10^{-6}$ mbar x l x s⁻¹ ($\leq 0.75 \times 10^{-6}$ Torr x l x s⁻¹)
- Seals on both sides against the atmosphere
- Opens against atmospheric pressure
- Small size
- Simple and quick to operate
- Pressure range from 10^{-2} to 1000 mbar (0.75×10^{-2} to 750 Torr)
- Smaller models serve as venting valves

Information on the blocking components is provided in the Catalog Part "Vacuum Valves".

Material

The housing of the ball valves is made of brass, the ball of hard-chrome plated brass, the valve seat of PTFE.

The housing of the right angle valve is made of aluminium, the spindle and valve plate are sealed with an O-ring and are made of stainless steel.



Dimensional drawings for the ball valves; G 3/8" and G 1/2" (left), G 1 1/4" and G 2" (middle), right-angle valves (right) and for the control valves (bottom)

Technical Data

Ball Valves and Valves ¹⁾

| | | | | |
|------------|--------------|--------------|----------------|------------|
| Type | Ball valve | Ball valve | Ball valve | |
| Connection | F/M 3/8" BSP | F/M 1/2" BSP | F/F 1 1/4" BSP | |
| Weight | kg (lbs) | 0.12 (0.3) | 0.15 (0.33) | 1.24 (2.7) |

Ordering Information

Ball Valves and Valves ¹⁾

| | | | |
|------|--------------------|-------------------|-------------------|
| | Part No. | Part No. | Part No. |
| Type | Ball valve | Ball valve | Ball valve |
| | 971 471 220 | 711 30 113 | 711 30 100 |

Technical Data

Ball Valves and Valves ¹⁾

| | | | | | |
|------------|------------|-------------------|---------------|-----------------------------------|--------------|
| Type | Ball valve | Right-angle valve | Control valve | Control valve with blocking valve | |
| Connection | F/F 2" BSP | DN 100 ISO-K | F/M 1/2" BSP | F/M 1/2" BSP | |
| Weight | kg (lbs) | 3.22 (7.1) | 8.0 (17.6) | 0.135 (0.3) | 0.369 (0.81) |

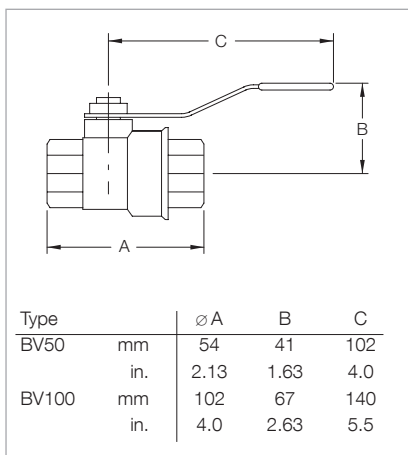
Ordering Information

Ball Valves and Valves ¹⁾

| | | | | |
|------|-------------------|-------------------|-----------------|-----------------------------------|
| | Part No. | Part No. | Part No. | Part No. |
| Type | Ball valve | Right-angle valve | Control valve | Control valve with blocking valve |
| | 711 30 107 | 107 81 | 951 86 | 951 87 |

¹⁾ Special versions for oxygen applications are available upon request

Only available for purchase in North and South America



Dimensional drawing for the ball valves BV

Technical Data

Ball Valves

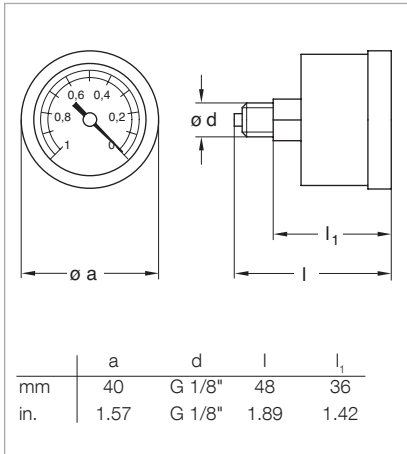
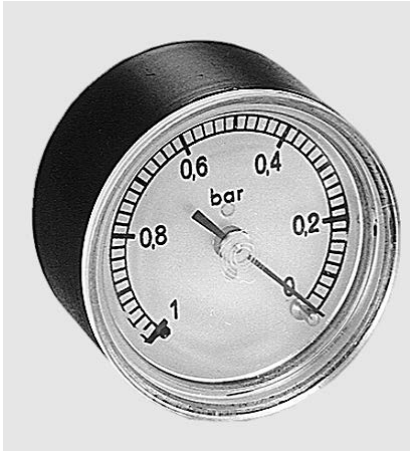
| | | |
|------------|-----------------|-------------------|
| Type | Ball valve | Ball valve |
| Connection | 1/2-inch NPT(F) | 1 1/4-inch NPT(F) |

Ordering Information

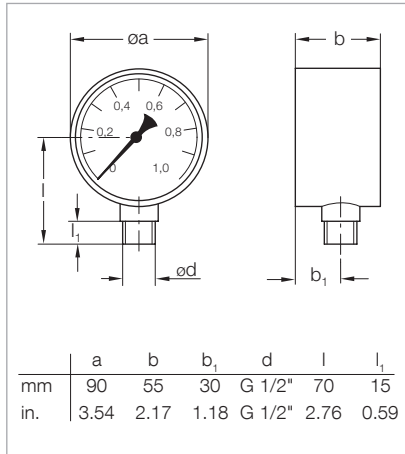
Ball Valves

| | | |
|------|-----------------|-----------------|
| | Part No. | Part No. |
| Type | BV50 | BV100 |
| | 899 810 | 899 800 |

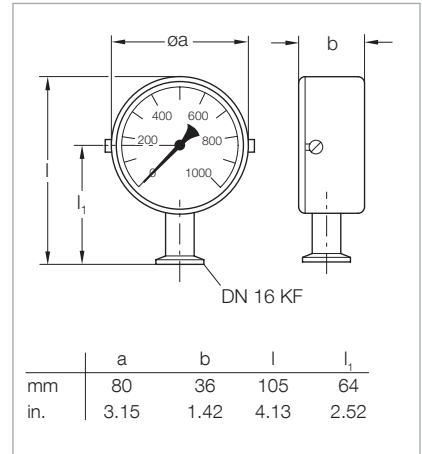
Bourdon Vacuum Gauges / DIAVAC DV 1000



Dimensional drawing for the Bourdon vacuum gauge Part No. 951 90



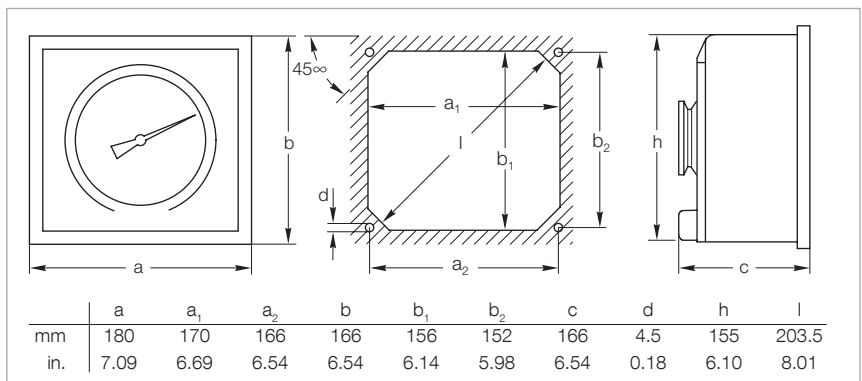
Dimensional drawing for the Bourdon vacuum gauge Part No. 951 92



Dimensional drawing for the Bourdon vacuum gauge Part No. 160 40



DIAVAC DV 1000



Dimensional drawing and panel cut-out for the DIAVAC DV 1000, Part No. 160 67

Advantages to the User

- Simple, rugged and vibration insensitive vacuum gauges for the rough vacuum range
- Linear response
- Clear dial which can also be read from a great distance
- Readings independent of atmospheric pressure

Technical Data

Bourdon Vacuum Gauges / DIAVAC DV 1000

| | | | | | |
|-------------------|----------|------------------------|------------------------------|------------------------------|------------------------------|
| Measuring range | | 0 to 100% | 0 to 1 bar | 0 to 1020 mbar | 1 to 1000 mbar |
| Vacuum connection | | M 1/8" BSP | M 1/2" BSP | DN 16 ISO-KF | DN 40 ISO-KF |
| Scale length | mm (in.) | 55 (2.17) | 140 (5.51) | 140 (5.51) | 270 (10.63) |
| Overall height | mm (in.) | 48 (1.89) | 115 (4.53) | 105 (4.13) | 166 (6.54) |
| Weight | g (lbs) | 60 (0.13) | 560 (1.24) | 300 (0.66) | 2700 (5.96) |
| Indication | | low pressure in bar | absolute pressure in mbar | absolute pressure in mbar | absolute pressure in mbar |

Ordering Information

Bourdon Vacuum Gauges / DIAVAC DV 1000

| | Part No. | Part No. | Part No. | Part No. |
|-----------------------|---------------|---------------|---------------|---------------|
| Bourdon Vacuum Gauges | 951 90 | 951 92 | 160 40 | - |
| DIAVAC DV 1000 | - | - | - | 160 67 |

Standard vacuum gauge for all SOGEVAC pumps is Part No. 951 92.
Further information on other vacuum gauges is provided in Catalog Part "Vacuum measuring - controlling"

Only available for purchase in North and South America

Other Accessories

External Carbon Exhaust Filters

An external type spin-on filter made of activated carbon on a polyester cloth housed in wire mesh. Used for providing additional protection from oil odor or mist expelled from pump exhaust.

Requires NPT type nipple and street elbow for preferred vertical mounting. SV 16/25 requires nipple only.

Technical Data

External Carbon Exhaust Filters

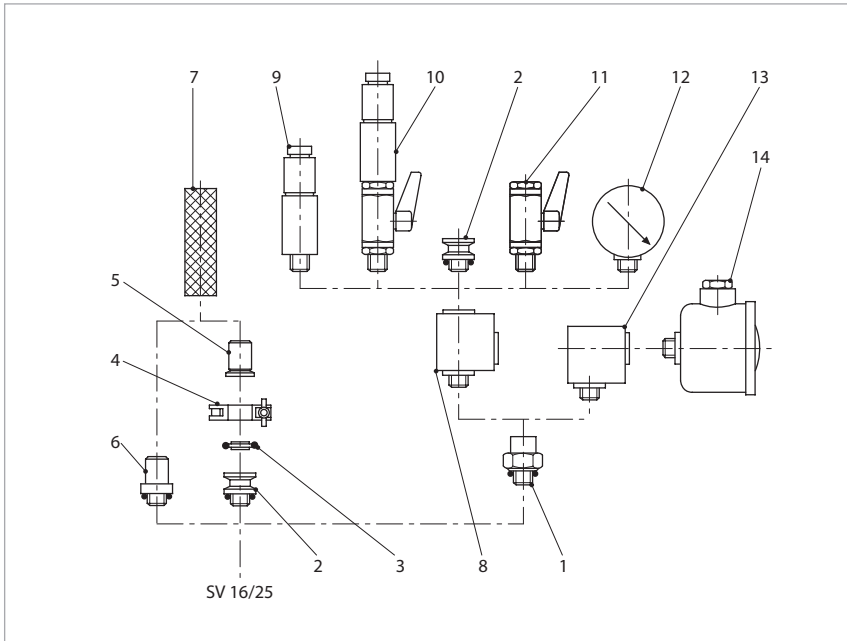
| | | | | |
|-------------|---------|----------------|----------------------------|------------|
| Model | | SVXCXF 50 | SVXCXF 100 | SVXCXF 200 |
| Fits pump | SOGEVAC | SV 16 / 25 (B) | SV 40 B / 65 B SV 100 B | SV 200/300 |
| Thread size | | 1/2" NPT-M | 1 1/4" NPT-M | 2" NPT-M |

Ordering Information

External Carbon Exhaust Filters

| | Part No. | Part No. | Part No. |
|---------------------------------|----------------|----------------|----------------|
| Model | SVXCXF 50 | SVXCXF 100 | SVXCXF 200 |
| External carbon exhaust filters | 899 502 | 899 500 | 899 498 |
| Replacement element | 899 503 | 899 501 | 899 499 |

Connection Fittings for SOGEVAC SV 10 B, SV 16, SV 16 B, SV 16 D, SV 25, SV 25 B, SV 25 D



Connection fittings for SOGEVAC SV 10 B, SV 16 B, SV 25 B and SV 16, SV 25

The fittings presented have been specially matched to the SOGEVAC pumps. We recommend to use only these

or other components from Leybold for connecting SOGEVAC pumps, so as not to impair the pumping speed of the pumps or the leak tightness of the system.

More information on further fittings is provided in Catalog Part "Flanges and Fittings".

Technical Data

Connection Fittings

| Item | Description | Connection | Material |
|------|---|--|---------------------------|
| 1 | Screw coupling | G 1/2" M/F | Aluminium |
| 2 | Threaded flange adaptor ¹⁾ | G 1/2" M – DN 16 ISO-KF | Aluminium, anodized |
| 3 | Centering ring ¹⁾ | DN 16 ISO-KF | Aluminium |
| 4 | Clamping ring | DN 10/16 ISO-KF | Aluminium |
| 5 | Hose connection | DN 16 ISO-KF – DN 25 mm (0.39 in.) | Aluminium, anodized |
| 6 | Hose connection ¹⁾ | G 1/2" M – DN 25 mm (0.39 in.) | Aluminium, anodized |
| 7 | PVC tubing | 25 mm (0.39 in.) dia., 1 m (3.5 ft) long | PVC |
| 8 | Tee piece | G 1/2" M/F/F | Aluminium, anodized |
| 9 | Vacuum control valve | G 1/2" M | Brass/Aluminium |
| 10 | Vacuum control valve with blocking valve | G 1/2" M | Brass, nickered/Aluminium |
| 11 | Ball valve | G 1/2" M/F | Brass, nickered |
| 12 | Bourdon vacuum gauge | G 1/2" M | |
| 13 | Elbow 90° | G 1/2" M/F | Aluminium, anodized |
| 14 | Dust filter | G 1/2" M/F | |
| 15 | Inlet reduction ¹⁾ (not shown) | G 1/2" M - G 3/4" F | galvanised steel |

¹⁾ With NBR-O-Ring

M = Outside thread

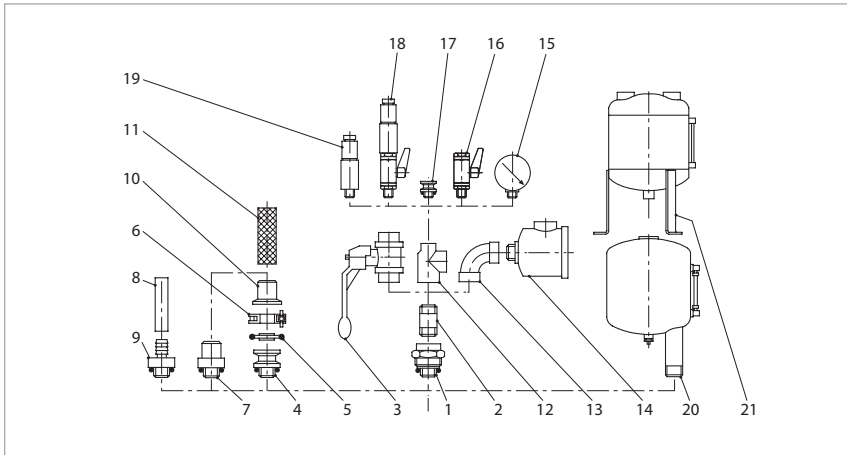
F = Inside thread

Ordering Information**Connection Fittings**

| Item | Description | SV 10 B | SV 16, 16 B, 16 D | SV 25, 25 B, 25 D |
|------|---|------------|-------------------|-------------------|
| | | Part No. | Part No. | Part No. |
| 1 | Screw coupling | 711 18 020 | 711 18 020 | 711 18 020 |
| 2 | Screw coupling ¹⁾ | 711 18 120 | 711 18 120 | 711 18 120 |
| 3 | Centering ring ¹⁾ | 183 26 | 183 26 | 183 26 |
| 4 | Clamping ring | 183 41 | 183 41 | 183 41 |
| 5 | Hose connection | 711 18 300 | 711 18 300 | 711 18 300 |
| 6 | Hose connection ¹⁾ | 711 18 011 | 711 18 011 | 711 18 011 |
| 7 | PVC tubing | 711 18 323 | 711 18 323 | 711 18 323 |
| 8 | Tee piece | 711 18 250 | 711 18 250 | 711 18 250 |
| 9 | Vacuum control valve | 951 86 | 951 86 | 951 86 |
| 10 | Vacuum control valve with blocking valve | 951 87 | 951 87 | 951 87 |
| 11 | Ball valve | 711 30 113 | 711 30 113 | 711 30 113 |
| 12 | Bourdon vacuum gauges | 951 92 | 951 92 | 951 92 |
| 13 | Elbow 90° | 711 18 210 | 711 18 210 | 711 18 210 |
| 14 | Dust filter ²⁾ with paper cartridge | 951 50 | 951 50 | 951 50 |
| | with activated charcoal cartridge | 711 27 092 | 711 27 092 | 711 27 092 |
| | with metal cartridge | 711 27 093 | 711 27 093 | 711 27 093 |
| | with polyester filter cartridge | 711 27 094 | 711 27 094 | 711 27 094 |
| 15 | Inlet reduction ¹⁾ (not shown) | 951 24 | 951 24 | 951 24 |

Special versions for oxygen applications are available upon request¹⁾ With NBR-O-Ring²⁾ See "Dust Filters F (Suction Side)" for other options

Connection Fittings for SOGEVAC SV 40 B, SV 65 B, SV 100 B



Connection fittings for SOGEVAC SV 40 B, SV 65 B, SV 100 B

Technical Data

Connection Fittings

| Item | Description | Connection | Material |
|------|---|--|---------------------------|
| 1 | Screw coupling ¹⁾ | G 1 1/4" M/F | Aluminium, NBR |
| 2 | Double nipple | G 1 1/4" M/M | Steel |
| 3 | Ball valve | G 1 1/4" F/F | Brass, nickeled |
| 4 | Threaded flange adaptor ¹⁾ | G 1 1/4" M – DN 40 ISO-KF | Aluminium, anodized |
| 5 | Centering ring | DN 40 ISO-KF | Aluminium |
| 6 | Clamping ring | DN 32/40 ISO-KF | Aluminium |
| 7 | Hose connection ¹⁾ | G 1 1/4" M / DN 40 mm (1.58 in.) | Aluminium, anodized |
| 8 | Rubber hose | dia 10 x 25 mm (0.39 x 0.98 in.), 1 m (3.5 ft) long | |
| 9 | Hose connection ¹⁾ | G 1 1/4" M – DN 10 | Aluminium, anodized |
| 10 | Hose connection | DN 40 ISO-KF/DN 40 mm (1.58 in.) | Aluminium, anodized |
| 11 | PVC tubing | 40 mm (1.58 in.) dia., 1 m (3.5 ft) long | |
| 12 | Tee reducer bush | G 1 1/4" – 1 1/4" – 1/2" F/F/F | Gray cast iron |
| 13 | Elbow 90° | G 1 1/4" F/F | Gray cast iron |
| 14 | Dust filter | G 1 1/4" M/F | |
| 15 | Bourdon vacuum gauge | G 1/2" M | |
| 16 | Ball valve | G 1/2" M/F | Brass, nickeled |
| 17 | Threaded flange adaptor ¹⁾ | G 1/2" M – DN 16 ISO-KF | Aluminium, anodized |
| 18 | Vacuum control valve with blocking valve | M 1/2" BSP | Brass, nickeled/Aluminium |
| 19 | Vacuum control valve | M 1/2" BSP | Brass, nickeled/Aluminium |
| 20 | Liquid trap | G 1 1/4" – 1 1/4" – 3/8" M/F | |
| 21 | Liquid trap | G 1 1/4" – 1 1/4" – 1/2" F/F/F | |

¹⁾ incl. O-ring

M = Outside thread

F = Inside thread

Ordering Information

Connection Fittings

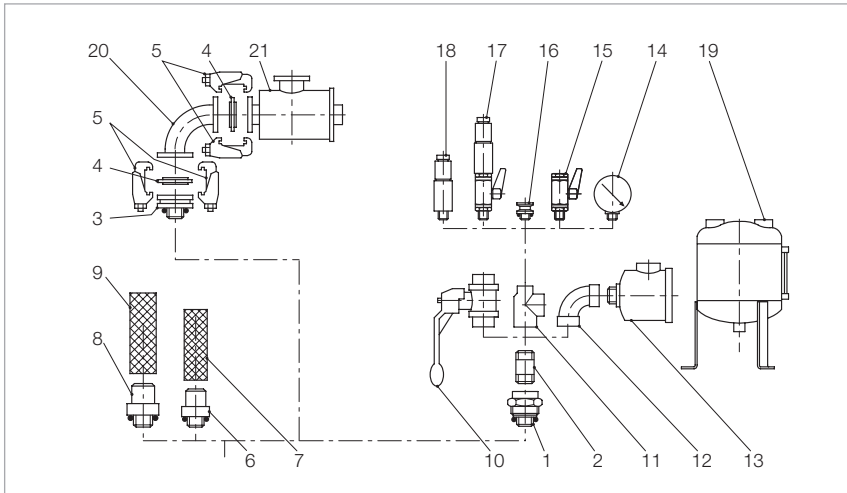
| | | SV 40 B | SV 65 B | SV 100 B |
|------|---|------------|------------|------------|
| | | Part No. | Part No. | Part No. |
| Item | Description | | | |
| 1 | Screw coupling ¹⁾ | 711 18 023 | 711 18 023 | 711 18 023 |
| 2 | Double nipple | 711 18 033 | 711 18 033 | 711 18 033 |
| 3 | Ball valve | 711 30 105 | 711 30 105 | 711 30 105 |
| 4 | Threaded flange adaptor ¹⁾ | 711 18 123 | 711 18 123 | 711 18 123 |
| 5 | Centering ring | 183 28 | 183 28 | 183 28 |
| 6 | Clamping ring | 183 43 | 183 43 | 183 43 |
| 7 | Hose connection ¹⁾ | 711 18 013 | 711 18 013 | 711 18 013 |
| 8 | Rubber hose | 172 03 | 172 03 | 172 03 |
| 9 | Hose connection ¹⁾ | 711 18 153 | 711 18 153 | 711 18 153 |
| 10 | Hose connection | 711 18 303 | 711 18 303 | 711 18 303 |
| 11 | PVC tubing | 711 18 324 | 711 18 324 | 711 18 324 |
| 12 | Tee reducer bush | 711 18 263 | 711 18 263 | 711 18 263 |
| 13 | Elbow 90° | 711 18 213 | 711 18 213 | 711 18 213 |
| 14 | Dust filter ²⁾ | | | |
| | with paper cartridge | 951 55 | 951 60 | 951 60 |
| | with activated charcoal cartridge | 711 27 102 | 711 27 112 | 711 27 112 |
| | with metal cartridge | 711 27 103 | 711 27 113 | 711 27 113 |
| | with polyester filter cartridge | 711 27 104 | 711 27 114 | 711 27 114 |
| 15 | Bourdon vacuum gauge | 951 92 | 951 92 | 951 92 |
| 16 | Ball valve | 711 30 113 | 711 30 113 | 711 30 113 |
| 17 | Threaded flange adaptor ¹⁾ | 711 18 120 | 711 18 120 | 711 18 120 |
| 18 | Vacuum control valve with blocking valve | 951 87 | 951 87 | 951 87 |
| 19 | Vacuum control valve | 951 86 | 951 86 | 951 86 |
| 20 | Liquid trap | 951 40 | - | - |
| 21 | Liquid trap | 951 42 | 951 42 | 951 42 |

Special versions for oxygen applications are available upon request

¹⁾ With NBR-O-Ring

²⁾ See "Dust Filters F (Suction Side)" for other options

Connection Fittings for SOGEVAC SV 200, SV 300 B



Connection fittings for SOGEVAC SV 200 and SV 300 B

Technical Data

Connection Fittings

| Item | Description | Connection | Material |
|------|--|---------------------------------------|---------------------------|
| 1 | Screw coupling ¹⁾ | G 2" M/F | Aluminium, anodized |
| 2 | Double nipple | G 2" M/M – 150 mm (5.9 in.) | Steel |
| 3 | Threaded flange adaptor ¹⁾ | G 2" M – DN 63 ISO-K | Steel, zinc coated |
| 4 | Centering ring with outer ring ¹⁾ | DN 63 ISO-K | Aluminium, CR |
| 5 | Set of clamping screws DN ISO-K (4 pieces) | M10 x 24 | Steel, zinc coated |
| 6 | Hose connection ¹⁾ | G 2" M – DN 50 mm (1.97 in.) | Aluminium, anodized |
| 7 | PVC tubing | ∅ 50 mm (1.97 in.), 1 m (3.5 ft) long | PVC |
| 8 | Hose connection ¹⁾ | G 2" M – DN 60 mm (2.36 in.) | Aluminium, anodized |
| 9 | PVC tubing | ∅ 60 mm (2.36 in.), 1 m (3.5 ft) long | PVC |
| 10 | Ball valve | G 2" F/F | Brass, nickered |
| 11 | Tee reducer | G 2" – 2" – 1/2" F/F/F | Gray cast iron |
| 12 | Elbow 90° | G 2" F/F | Gray cast iron |
| 13 | Dust filter | G 2" M/F | |
| 14 | Bourdon vacuum gauge | G 1/2" M | |
| 15 | Ball valve | G 1/2" M/F | Brass, nickered/Aluminium |
| 16 | Threaded ISO-KF small-flange adaptor ¹⁾ | G 1/2" M – DN 16 ISO-KF | Aluminium, anodized |
| 17 | Vacuum control valve with blocking valve | G 1/2" M | Brass, nickered/Aluminium |
| 18 | Vacuum control valve | G 1/2" M | Brass, nickered/Aluminium |
| 19 | Liquid trap | G 2" – 2" – 1/2" F/F/F | |
| 20 | Elbow 90° | DN 63 ISO-K | Stainless steel |
| 21 | Dust filter with paper cartridge | DN 63 ISO-K | |

¹⁾ incl. O-ring

M = Outside thread

F = Inside thread

Ordering Information

Connection Fittings

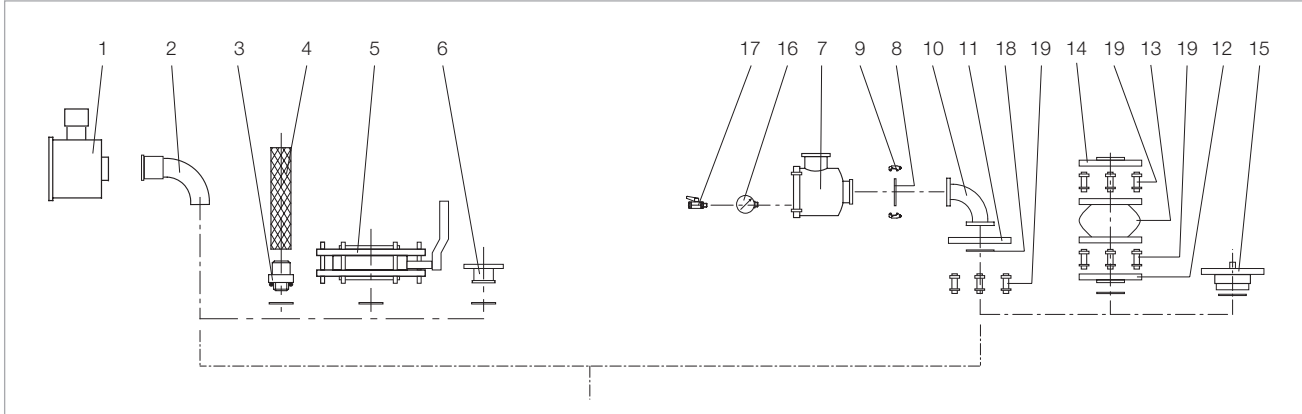
| Item | Description | SV 200 | SV 300 B |
|------|---|------------|-------------|
| | | Part No. | Part No. |
| 1 | Screw coupling ¹⁾ | 711 18 025 | 711 18 025 |
| 2 | Double nipple | 711 18 035 | 711 18 035 |
| 3 | Threaded flange adaptor ¹⁾ | 711 18 126 | 711 18 126 |
| 4 | Centering ring with outer ring ¹⁾ | 268 05 | 268 05 |
| 5 | Set of clamping screws DN ISO-K (4 pieces) | 267 01 | 267 01 |
| 6 | Hose connection ¹⁾ | 711 18 015 | 711 18 015 |
| 7 | PVC tubing | 711 18 325 | 711 18 325 |
| 8 | Hose connection ¹⁾ | 711 18 016 | P711 18 016 |
| 9 | PVC tubing | 711 18 326 | 711 18 326 |
| 10 | Ball valve | 711 30 107 | 711 30 107 |
| 11 | Tee reducer | 711 18 265 | 711 18 265 |
| 12 | Elbow 90° | 711 18 215 | 711 18 215 |
| 13 | Dust filter ²⁾ with paper cartridge | 951 65 | 951 65 |
| | with activated charcoal cartridge | 711 27 122 | 711 27 122 |
| | with metal cartridge | 711 27 123 | 711 27 123 |
| | with polyester filter cartridge | 711 27 124 | 711 27 124 |
| 14 | Bourdon vacuum gauge | 951 92 | 951 92 |
| 15 | Ball valve | 711 30 113 | 711 30 113 |
| 16 | Threaded ISO-KF small-flange adaptor ¹⁾ | 711 18 120 | 711 18 120 |
| 17 | Vacuum control valve with blocking valve | 951 87 | 951 87 |
| 18 | Vacuum control valve | 951 86 | 951 86 |
| 19 | Liquid trap | 951 44 | 951 44 |
| 20 | Elbow 90° | 887 25 | 887 25 |
| 21 | Dust filter with paper cartridge | 951 68 | 951 68 |

Special versions for oxygen applications are available upon request

¹⁾ With NBR-O-Ring

²⁾ See "Dust Filters F (Suction Side)" for other options

Connection Fittings for SOGEVAC SV 470 B(F), SV 570 B(F)



Connection fittings for SOGEVAC SV 470 B(F), SV 570 B(F)

Technical Data

Connection Fittings

| Item. | Description | Connection | Material |
|-------|---|--|--|
| 1 | Dust filter with paper cartridge with metal cartridge with activated charcoal cartridge | G3" F/M | Steel, zinc coated |
| 2 | Elbow 90° | G3" M/F | Cast iron, painted |
| 3 | Adaptor | G3" M – DN 90 | Steel, painted |
| 4 | PVC hose | Ø 90 mm, 1 m long | |
| 5 | Manual valve | G3" M/F | Cast iron, painted |
| 6 | Flange | G3" M – DN 100 ISO-K | Aluminium |
| 7 | Dust filter with paper cartridge with metal cartridge with activated charcoal cartridge with polyester filter cartridge | DN 100 ISO-K DN 100 ISO-K DN 100 ISO-K DN 100 ISO-K | Steel, painted Steel, painted Steel, painted Steel, painted |
| 8 | Centering ring with O-ring | DN 100 ISO-K | Stainless steel |
| 9 | Set of clamping screws (4 pieces are required) | M10 x 24 | galvanised steel |
| 10 | Elbow 90° | DN 100 ISO-K | Stainless steel |
| 11 | Adapter flange | DN 100 ISO-K, DIN 2501 | Steel, painted |
| 12 | Collar flange | DN 100 PN 10 – G3" M | Steel, painted |
| 13 | Compensator | DN 100 PN 10 | Steel / Rubber |
| 14 | Flange | DN 100 PN 10 – G3" F | Steel, painted |
| 15 | Double nipple | DN 100 ISO-K / DN 100 PN 10 – G3" M | Steel, painted |
| 16 | Filter manometer | G1/2" M | |
| 17 | Venting valve | G1/2" M/F | Steel |
| 18 | O-ring) | | FPM (FKM) |
| 19 | Set of bolts | M16 | Steel, zinc coated |

M = Outside thread
F = Inside thread

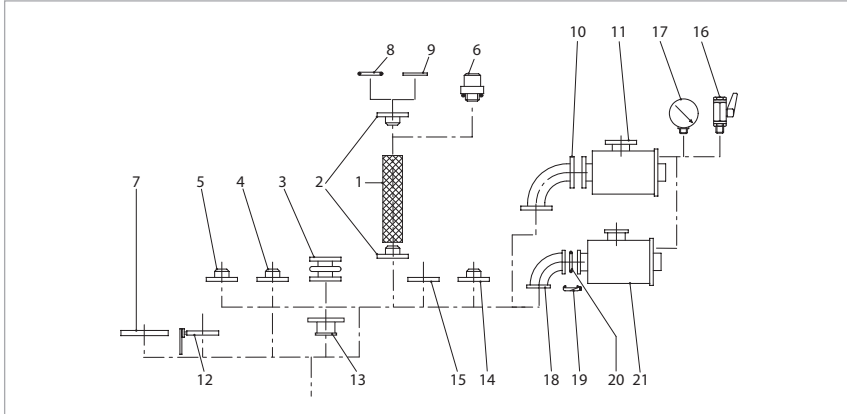
Ordering Information**Connection Fittings****SV 470 B(F)****SV 570 B(F)**

| Item | Description | Part No. | Part No. |
|------|---|--|--|
| 1 | Dust filter with paper cartridge with metal cartridge with activated charcoal cartridge | upon request upon request upon request | upon request upon request upon request |
| 2 | Elbow 90° | 9516 223V | 9516 223V |
| 3 | Adaptor | 9516 221V | 9516 221V |
| 4 | PVC hose | 711 18 329 | 711 18 329 |
| 5 | Manual valve | 9516 225V | 9516 225V |
| 6 | Flange | 711 18 127 | 711 18 127 |
| 7 | Dust filter with paper cartridge with metal cartridge with activated charcoal cartridge with polyester filter cartridge | 951 72 711 27 167 711 27 166 711 27 168 | 951 72 711 27 167 711 27 166 711 27 168 |
| 8 | Centering ring with O-ring | 268 06 | 268 06 |
| 9 | Set of clamping screws (4 pieces are required) | 267 01 | 267 01 |
| 10 | Elbow 90° | 887 26 | 887 26 |
| 11 | Adaptor flange | 267 50 | 267 50 |
| 12 | Collar flange | 9516 226V | 9516 226V |
| 13 | Compensator | 711 18 342 | 711 18 342 |
| 14 | Flange | 711 18 370 | 711 18 370 |
| 15 | Double nipple | 9516 222V | 9516 222V |
| 16 | Filter manometer | 951 92 | 951 92 |
| 17 | Venting valve | 711 30 113 | 711 30 113 |
| 18 | O-ring FPM (FKM) | 712 42 892 | 712 42 892 |
| 19 | Set of bolts | 714 12 440 | 714 12 440 |

Special versions for oxygen applications are available upon request

¹⁾ With NBR O-ring

Connection Fittings for SOGEVAC SV 500 B, SV 630 B(F), SV 750 B(F)



Connection fittings for SOGEVAC SV 500 B, SV 630 B(F), SV 750 B(F)

Technical Data

Connection Fittings

| Item | Description | Connection | Material |
|------|--|--|---|
| 1 | PVC tubing | 90 mm (3.54 in.) dia., 1 m (3.5 ft) long | |
| 2 | Hose connection | DN 100 PN 10 – DN 90 mm (3.54 in.) | Steel |
| 3 | Coupling | DN 100 – PN 10 | Stainless steel/Aluminium/Rubber |
| 4 | Adaptor flange | DN 100 PN 10 – G 4" F | Steel |
| 5 | Adaptor flange | DN 100 PN 10 – G 3" F | Steel |
| 6 | Hose connection | G 4" M – DN 90 | Steel/NBR |
| 7 | Adaptor for Roots pump | RUVAC 1001 RUVAC 2001 RUVAC WH4400 | Steel/NBR Steel/FPM (FKM) Steel/FPM (FKM) |
| 8 | O-ring | dia. 110 x 5 (3.94 x 0.2 in.) | NBR |
| 9 | Centering ring with O-ring | DN 100 PN 10 – DN 100 ISO-K | Aluminium/NBR |
| 10 | Elbow 90° | DN 100 PN 10 | Steel |
| 11 | Dust filter F 630 | DN 100 PN 10 | |
| 12 | Manually operated blocking valve | DN 100 PN 10 | Gray cast iron |
| 13 | Adaptor | DN 100 PN 10 – 100 ISO-K | Aluminium |
| 14 | Adaptor flange with tubulation | DN 100 PN 10 (tube dia. 108 (4.25 in.)) | Steel |
| 15 | Collar flange | DN 100 PN 10 – DN 100 ISO-K | Steel |
| 16 | Ball valve | G 1/2" M/F | Brass, nickered/Aluminium |
| 17 | Bourdon vacuum gauge | G 1/2" M | |
| 18 | Elbow 90° | DN 100 ISO-K | Stainless steel |
| 19 | Set of clamps for DN ISO-K Set = 4 pieces | M 10 x 24 | Steel, zinc coated |
| 20 | Centering ring | DN 100 ISO-K | Aluminium/CR |
| 21 | Dust filter | DN 100 ISO-K | |
| | Screw set (not drawn) Set = 8 screws and 8 nuts | DN 100 PN 10 | Steel, zinc coated |

M = Outside thread

F = Inside thread

Ordering Information

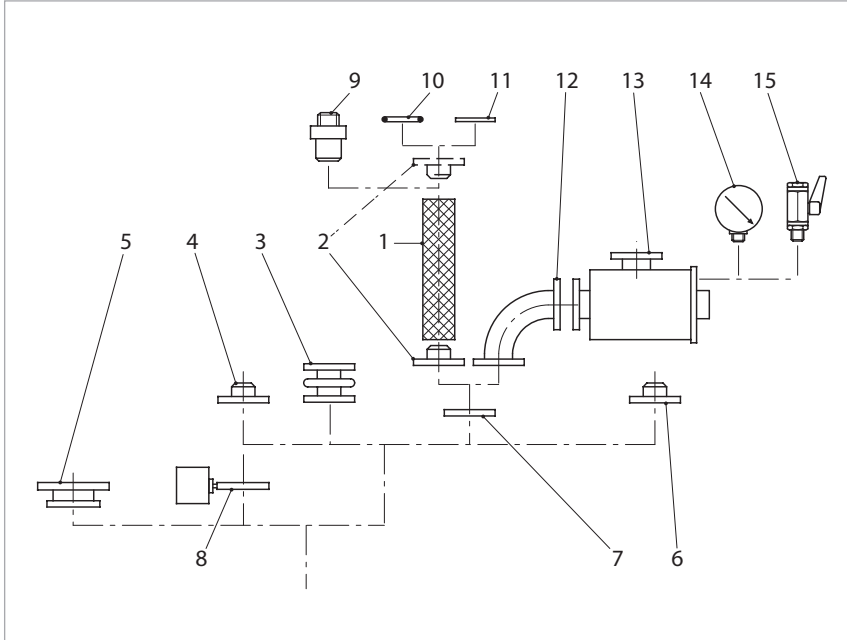
Connection Fittings

| | | SV 500 B(F) | SV 630 B(F) | SV 750 B(F) |
|------|---|--|--|--|
| | | Part No. | Part No. | Part No. |
| Item | Description | | | |
| 1 | PVC tubing | 711 18 329 | 711 18 329 | 711 18 329 |
| 2 | Hose connection | 711 18 362 | 711 18 362 | 711 18 362 |
| 3 | Coupling | 711 18 342 | 711 18 342 | 711 18 342 |
| 4 | Adaptor flange | 711 18 372 | 711 18 372 | 711 18 372 |
| 5 | Adaptor flange | 711 18 370 | 711 18 370 | 711 18 370 |
| 6 | Hose connection | 711 18 017 | 711 18 017 | 711 18 017 |
| 7 | Adaptor for Roots pump RUVAC 1000 RUVAC 2000 RUVAC WH4400 | 971 432 340 971 432 350 971 43 WH4400 | 971 432 340 971 432 350 971 43 WH4400 | 971 432 340 971 432 350 971 43 WH4400 |
| 8 | O-ring | 712 42 882 | 712 42 882 | 712 42 882 |
| 9 | Centerring ring with O-ring | 711 18 391 | 711 18 391 | 711 18 391 |
| 10 | Elbow 90° | 711 18 284 | 711 18 284 | 711 18 284 |
| 11 | Dust filter F 630 ¹⁾ with paper cartridge with activated charcoal cartridge with metal cartridge with polyester filter cartridge | 951 71 711 27 162 711 27 163 711 27 164 | 951 71 711 27 162 711 27 163 711 27 164 | 951 71 711 27 162 711 27 163 711 27 164 |
| 12 | Manually operated blocking valve | 711 30 116 | 711 30 116 | 711 30 116 |
| 13 | Adaptor | 711 18 336 | 711 18 336 | 711 18 336 |
| 14 | Adaptor flange with tubulation | 711 18 351 | 711 18 351 | 711 18 351 |
| 15 | Collar flange | 711 18 383 | 711 18 383 | 711 18 383 |
| 16 | Ball valve | 711 30 113 | 711 30 113 | 711 30 113 |
| 17 | Bourdon vacuum gauge | 951 92 | 951 92 | 951 92 |
| 18 | Elbow 90° | 887 26 | 887 26 | 887 26 |
| 19 | Clamp screws for DN ISO-K Set = 4 pieces | 267 01 | 267 01 | 267 01 |
| 20 | Centering ring ²⁾ | 268 06 | P268 06 | 268 06 |
| 21 | Dust filter ¹⁾ with paper cartridge with activated charcoal cartridge with metal cartridge with polyester cartridge | 951 72 711 27 166 711 27 167 711 27 168 | 951 72 711 27 166 711 27 167 711 27 168 | 951 72 711 27 166 711 27 167 711 27 168 |
| | Screw set (not drawn) Set = 8 screws and 8 nuts | 714 12 440 | 714 12 440 | 714 12 440 |

Special versions for oxygen applications are available upon request

¹⁾ See "Dust Filters F (Suction Side)" for other options²⁾ incl. O-ring

Connection Fittings for SOGEVAC SV 1200



Connection fittings for SOGEVAC SV 1200

Technical Data

Connection Fittings

| Item | Description | Connection | Material |
|------|--------------------------------------|--|---|
| 1 | PVC tubing | 90 mm (3.54 in.) dia., 1 m (3.5 ft) long | PVC |
| 2 | Hose connection | DN 125 PN 10 – DN 90 mm (3.54 in.) | Steel |
| 3 | Coupling | DN 125 PN 10 | Stainless steel/Aluminium/Rubber |
| 4 | Flange with tubulation ¹⁾ | DN 125 (tube 139.7 (5.5 in.)) | Steel |
| 5 | Adaptor for Roots pump | RUVAC 2001 RUVAC 3001 RUVAC WH 4400/7000 | Steel Steel/FPM (FKM) Steel/FPM (FKM) |
| 6 | Adaptor flange | DN 125 PN 10 – G 4" F | Steel |
| 7 | Collar flange | DN 125 PN 10 – DN 160 ISO-K | Steel |
| 8 | Electropneumatic valve | DN 125 PN 10 | Gray cast iron |
| 9 | Hose connection | G 4" M – DN 90 mm (3.54 in.) | Steel/NBR |
| 10 | O-ring 165 x 5 165 x 5 | | NBR FPM (FKM) |
| 11 | Centering ring ¹⁾ | DN 125 PN 10 – DN 160 ISO-K | Aluminium |
| 12 | Elbow 90° | DN 125 PN 10 | Steel |
| 13 | Dust filter ²⁾ | DN 125 PN 10 | |
| 14 | Bourdon vacuum gauge | G 1/2" M | |
| 15 | Ball valve | G 1/2" M/F | Brass, nickered/Aluminium |

¹⁾ incl. O-ring

²⁾ See "Dust Filters F (Suction Side)" for other options

M = Outside thread

F = Inside thread

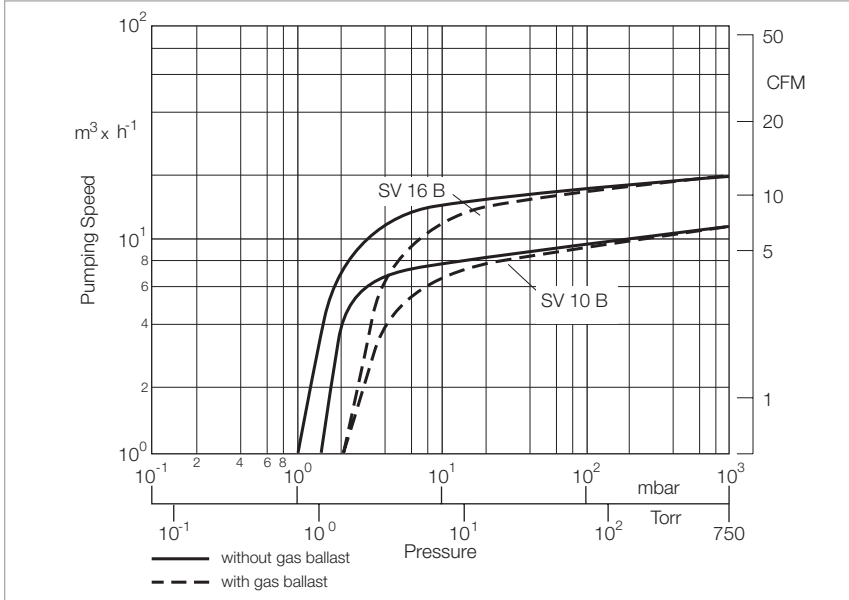
Ordering Information**Connection Fittings****SV 1200**

| | Part No. |
|---|-------------------|
| Item Description | |
| 1 PVC tubing | 711 18 329 |
| 2 Hose connection | 711 18 363 |
| 3 Coupling | 711 18 343 |
| 4 Flange with tubulation ¹⁾ | 711 18 355 |
| 5 Adaptor for Roots pump | |
| RUVAC 2001 | 953 37 |
| RUVAC 3001 | 953 38 |
| RUVAC WH 4400/7000 | 953 3WH |
| 6 Adaptor flange | 711 18 117 |
| 7 Collar flange | 711 18 386 |
| 8 Electropneumatic valve | 715 69 202 |
| 9 Hose connection | 711 18 017 |
| 10 O-ring | |
| 165 x 5 | 712 42 902 |
| 165 x 5 | 712 42 912 |
| 11 Centering ring ¹⁾ | 711 18 396 |
| 12 Elbow 90° | 711 18 287 |
| 13 Dust filter ²⁾ | |
| with paper cartridge | 951 75 |
| with activated charcoal cartridge | 711 27 142 |
| with metal cartridge | 711 27 143 |
| with polyester filter cartridge | 711 27 144 |
| 14 Bourdon vacuum gauge | 951 92 |
| 15 Ball valve | 711 30 113 |

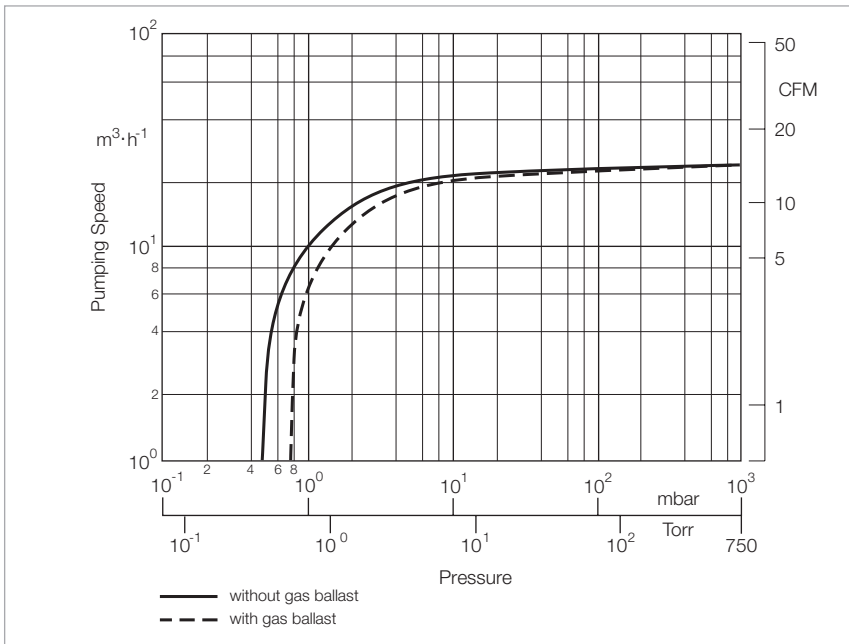
Special versions for oxygen applications are available upon request¹⁾ incl. O-ring²⁾ See "Dust Filters F (Suction Side)" for other options

Only available for purchase in North and South America

60 Hz Curves

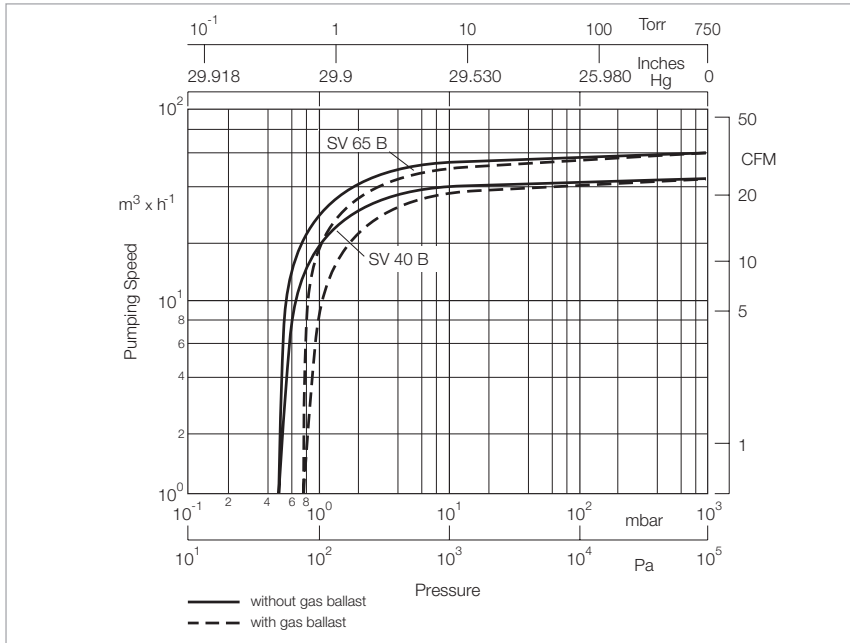


Pumping speed characteristics for the SOGEVAC SV 10 B and SV 16 B at 60 Hz

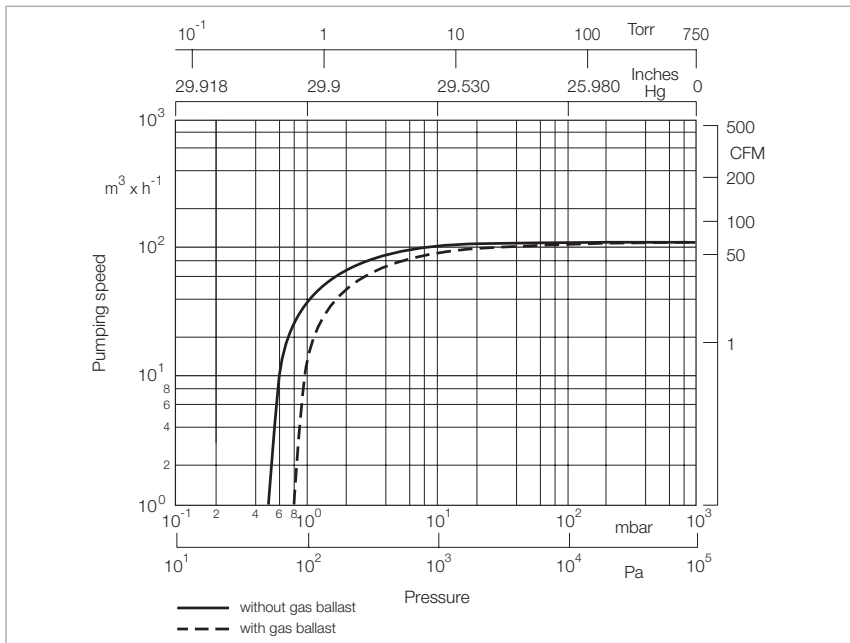


Pumping speed characteristics for the SOGEVAC SV 25 B at 60 Hz

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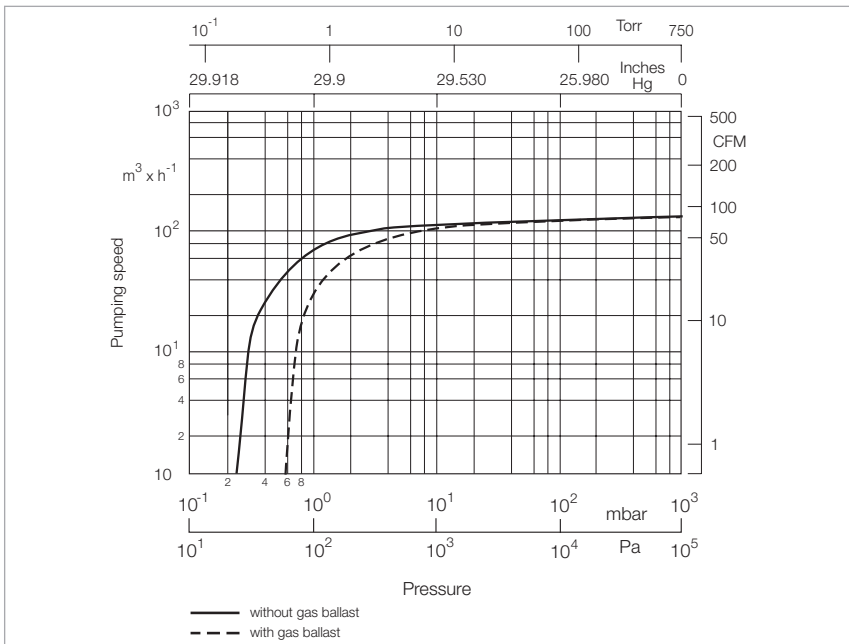


Pumping speed characteristics for the SOGEVAC SV 40 B and SV 65 B at 60 Hz

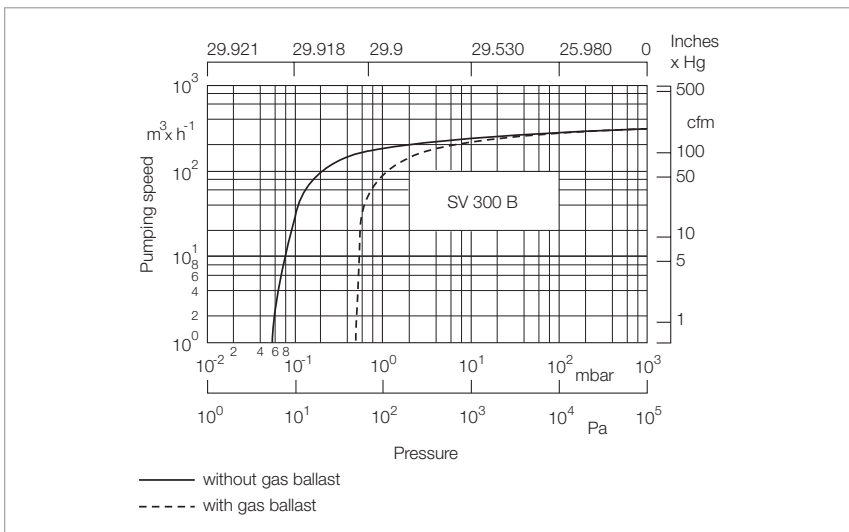


Pumping speed characteristics for the SOGEVAC SV 100 B at 60 Hz

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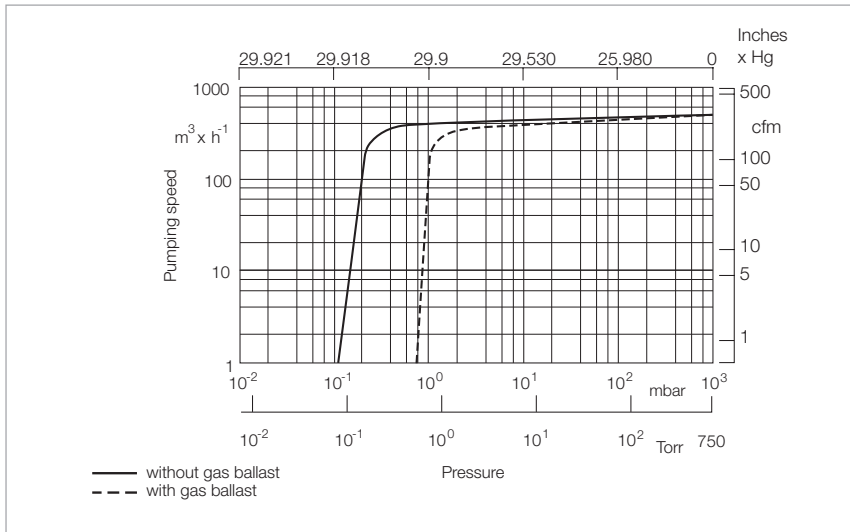


Pumping speed characteristics for the SOGEVAC SV 120 B at 60 Hz

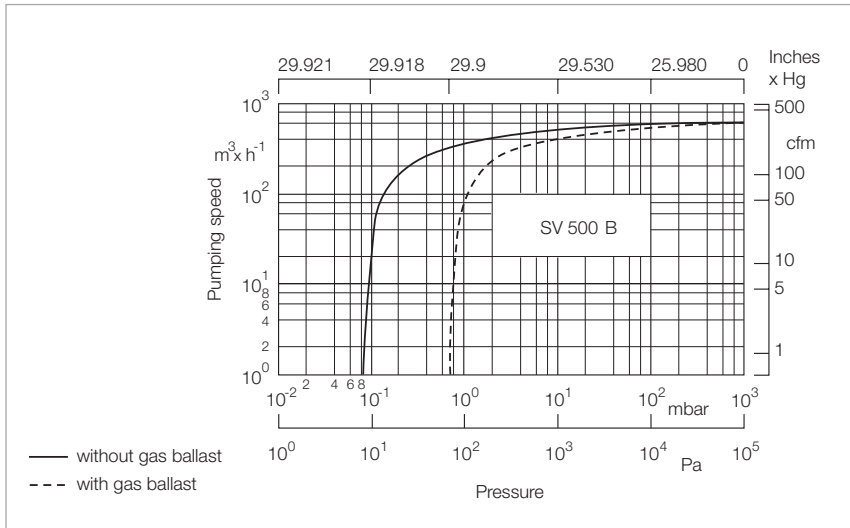


Pumping speed characteristics for the SOGEVAC SV 300 B at 60 Hz

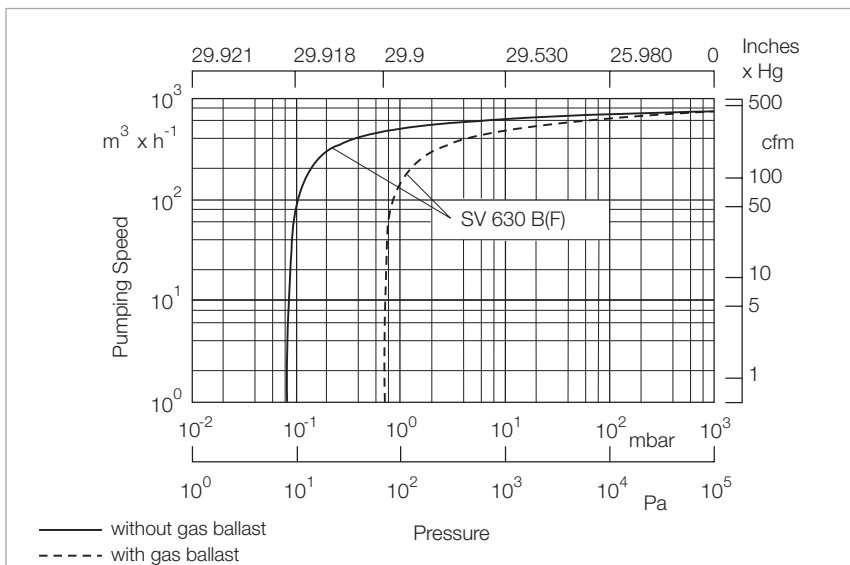
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Pumping speed characteristics of the SOGEVAC SV 470 B(F) and 570 B(F) at 60 Hz operation

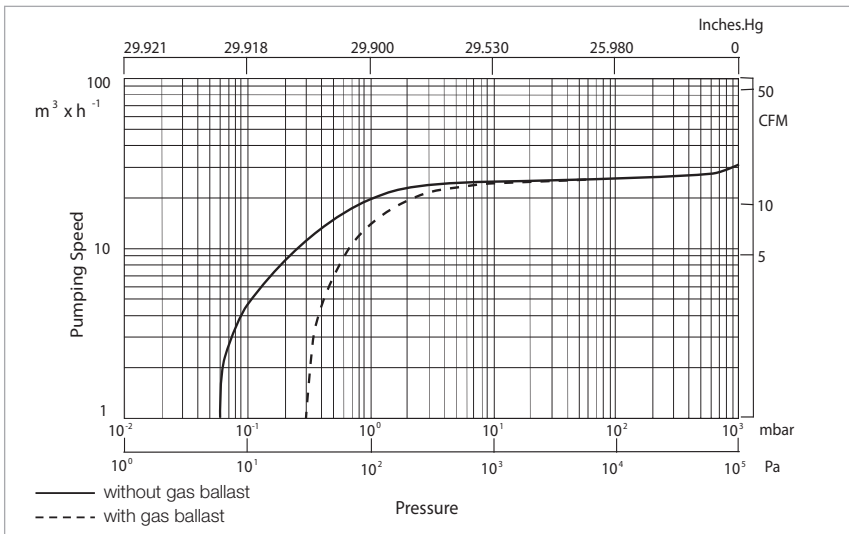


Pumping speed characteristics for the SOGEVAC SV 500 B at 60 Hz

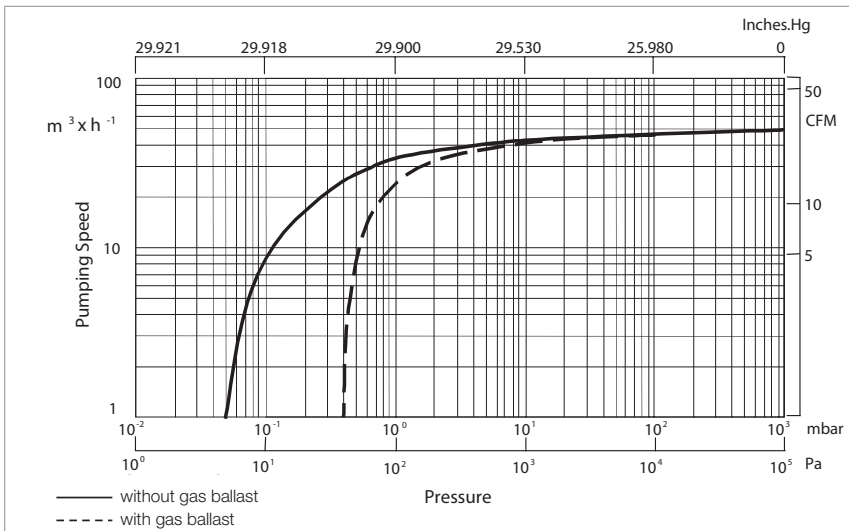


Pumping speed characteristics for the SOGEVAC SV 630 B(F) at 60 Hz

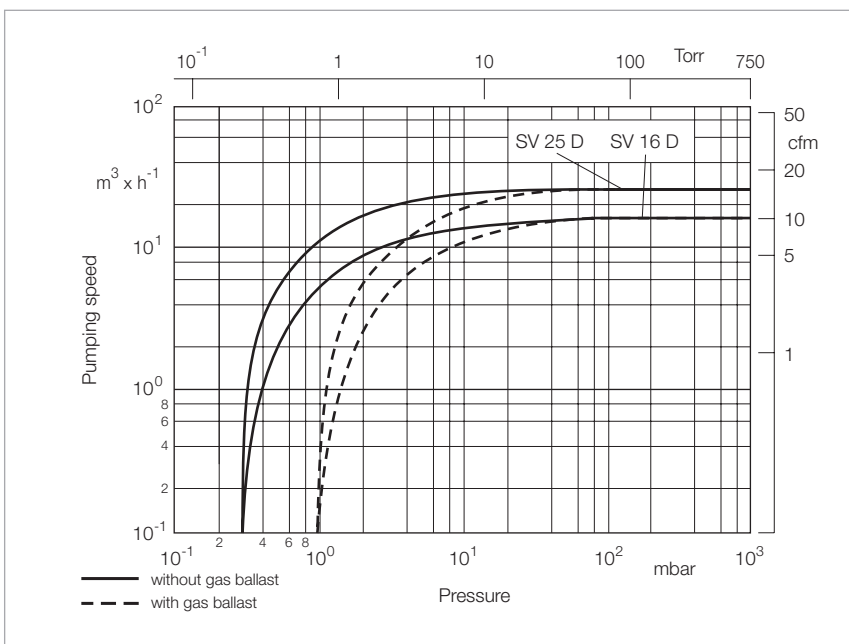
Only available for purchase in North and South America



Pumping speed characteristics for the SOGEVAC SV 28 BI at 60 Hz

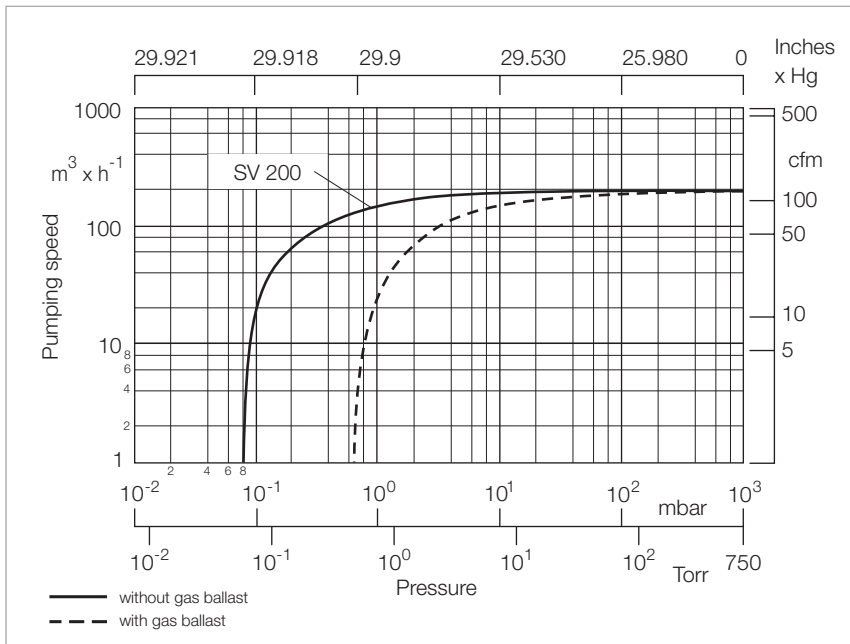


Pumping speed characteristics for the SOGEVAC SV 40 BI at 60 Hz

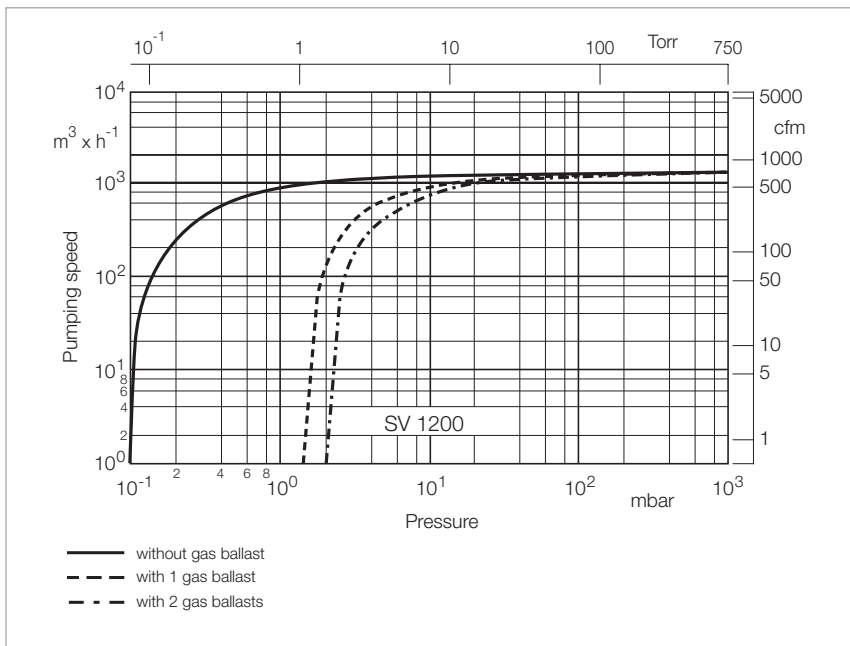


Pumping speed characteristics for the SOGEVAC SV 16 D and SV 25 D at 60 Hz

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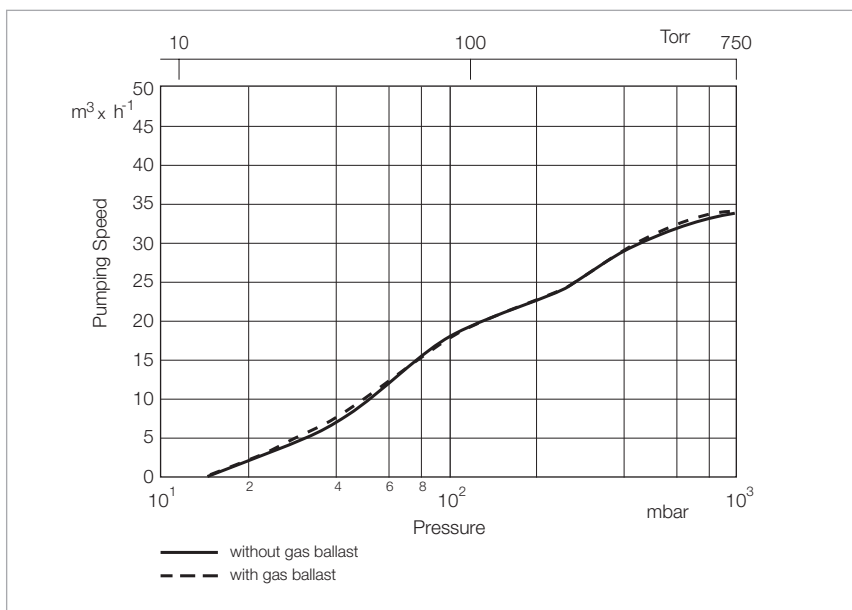


Pumping speed characteristics for the SOGEVAC SV 200 at 60 Hz

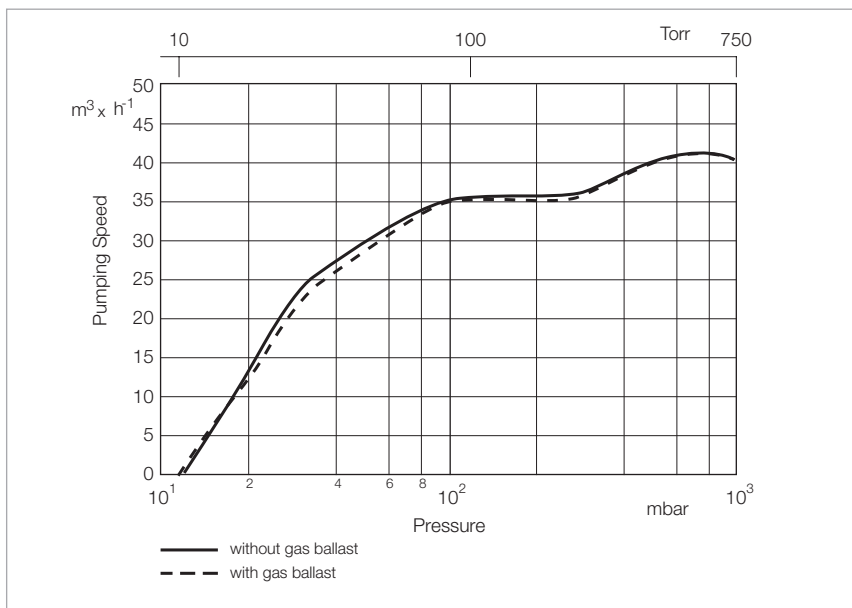


Pumping speed characteristics for the SOGEVAC SV 1200 at 60 Hz

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Pumping speed characteristics of the SOGEVAC SV 40 ATEX at 60 Hz for gases of the material group IIB and H_2



Pumping speed characteristics of the SOGEVAC SV 40 ATEX at 60 Hz for gases of the material group IIA

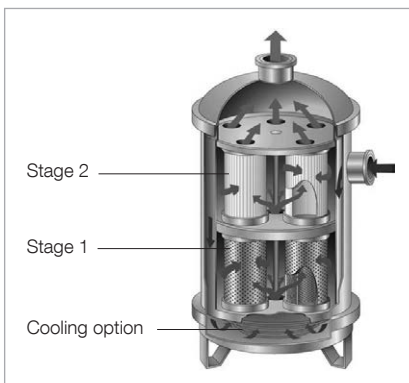
Only available for purchase in North and South America

Combination Filter

Vacuum Pump Inlet Filter



Combination filter

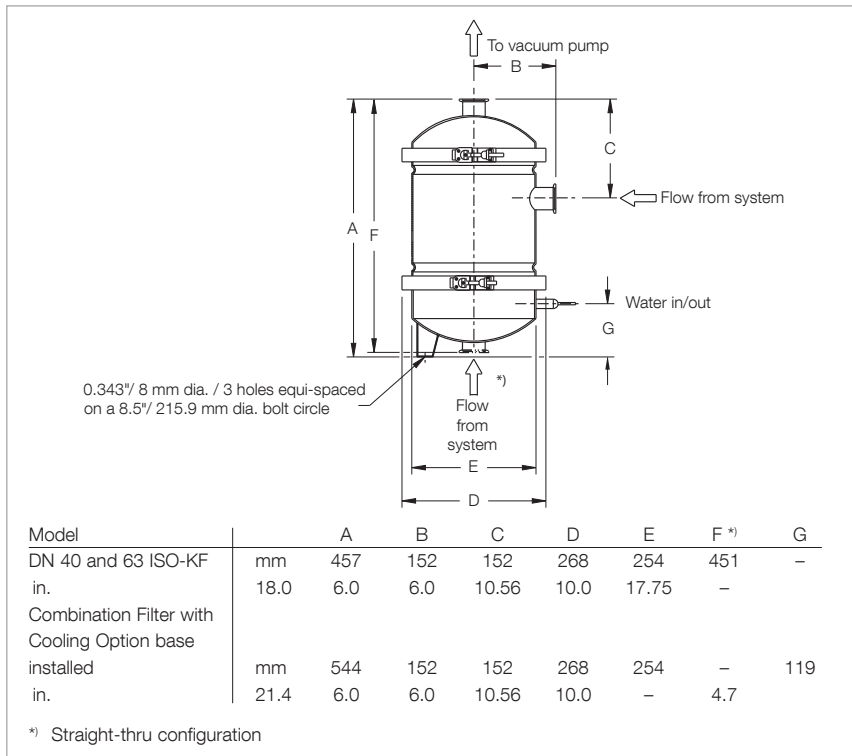


Combination filter: cutaway view

The combination filter is a high efficiency vacuum pump inlet filter designed specifically to condense, absorb, and neutralize process byproducts generated from vacuum applications in the chemical and pharmaceutical industries.



Cooling Option for combination filter



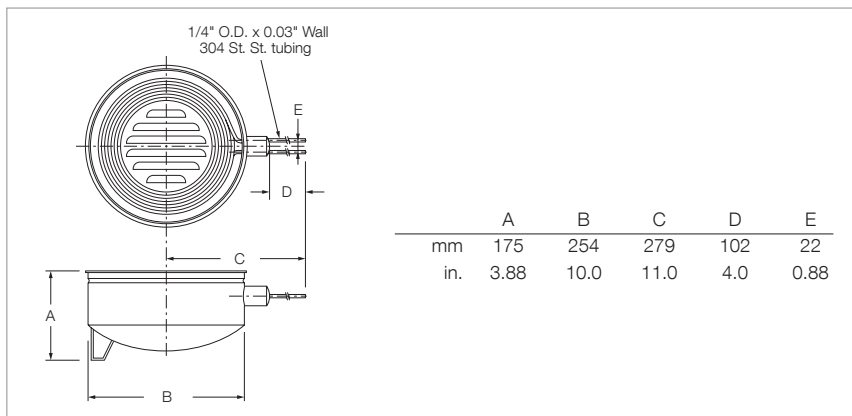
Dimensional drawing for the combination filter

Advantages to the User

- All stainless steel construction with-stands corrosive environments
- Modular design allows for numerous configurations and easy servicing
- Stacking modules available for increased capacity
- Optional drain port for solvent draining and reclamation
- Customizable absorption/neutralization stages for optimal efficiency
- Processes such as distillation, drying, degassing, central lab vacuum protection
- Cooling option: Large cooled surface area for condensing of solvents, acids and water vapor

Specifications

- Construction in stainless steel 304
- Upper and lower seals in Buna N and Viton



Dimensional drawing for the combination filter Cooling Option

Ordering Information

Combination Filter

DN 40 ISO-KF

DN 63 ISO-K

| | Part No. | Part No. |
|---|----------------|----------------|
| Combination filter 5 filter elements in stage 1 and 5 elements in stage 2 (elements not included) | 180497V | 180499V |
| straight-thru configuration, same as above except inlet on bottom | 180498V | - |
| Stacking modules includes 2 stages (5 elements ea.), 11.25" (286 mm) tall, all attachment hardware included (filter elements not included) | 180500V | 180500V |
| Cooling Option base, 0.5 - 1.0 GPM (2 - 4 LPM) water flow recommended | 180501V | 180501V |

Ordering Information

Filter Elements

| | Part No. |
|---|----------------|
| Copper gauze | 180502V |
| Stainless steel gauze | 180503V |
| Molecular sieve | 180504V |
| Porous mixture of sodium hydroxide and potassium hydroxide | 180505V |
| Activated charcoal | 180506V |
| Pleated polypropylene 2 micron (99% efficient) | 180507V |
| Pleated polypropylene 5 micron (99% efficient) | 180508V |
| Pleated polypropylene 20 micron (99% efficient) | 180509V |

Ordering Information

Adapters (Stainless Steel)

| | Part No. |
|-----------------------------------|-------------------|
| DN 40 ISO-KF to 1 1/4" NPT (male) | 899 627 |
| DN 40 ISO-KF to 2" NPT (male) | 899 629 |
| DN 63 ISO-K to 2" NPT (male) | 721 03 040 |

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