

oerlikon
leybold vacuum

SOGEVAC

Rotary Vane Vacuum Pumps
single-stage, oil-sealed,
10 - 1200 m³ x h⁻¹ (5.9 - 707 cfm)

Central Vacuum Supply Systems

172.02.02
Excerpt from the Oerlikon Leybold Vacuum Full Line Catalog
Product Section C02
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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.

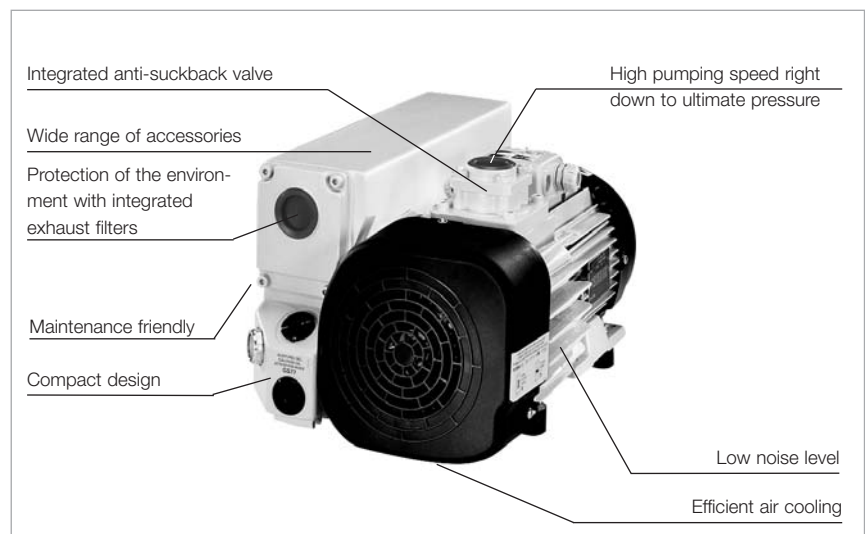
Many years of experience in vacuum engineering and the latest developments in pump technology combine in the SOGEVAC range the capability to adapt to the requirements of both the industry and the environment. The comprehensive range (pumping speeds ranging from 10 to 1200 m³ x h⁻¹ (5.9 to 707 cfm)) allows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

Application Examples

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

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 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%).

Oerlikon Leybold Vacuum 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-suck-back, 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

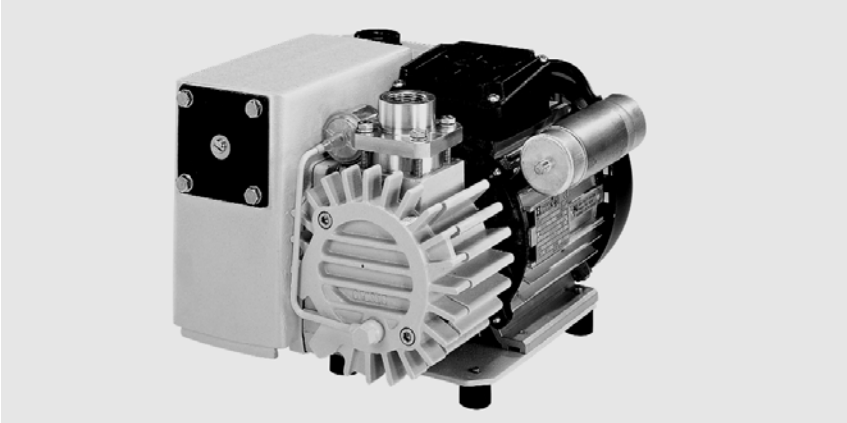
The built-in exhaust filter ensures an oil-mist free exhaust gases over the entire range of operating pressures – from atmospheric pressure to ultimate pressure.

Supplied Equipment

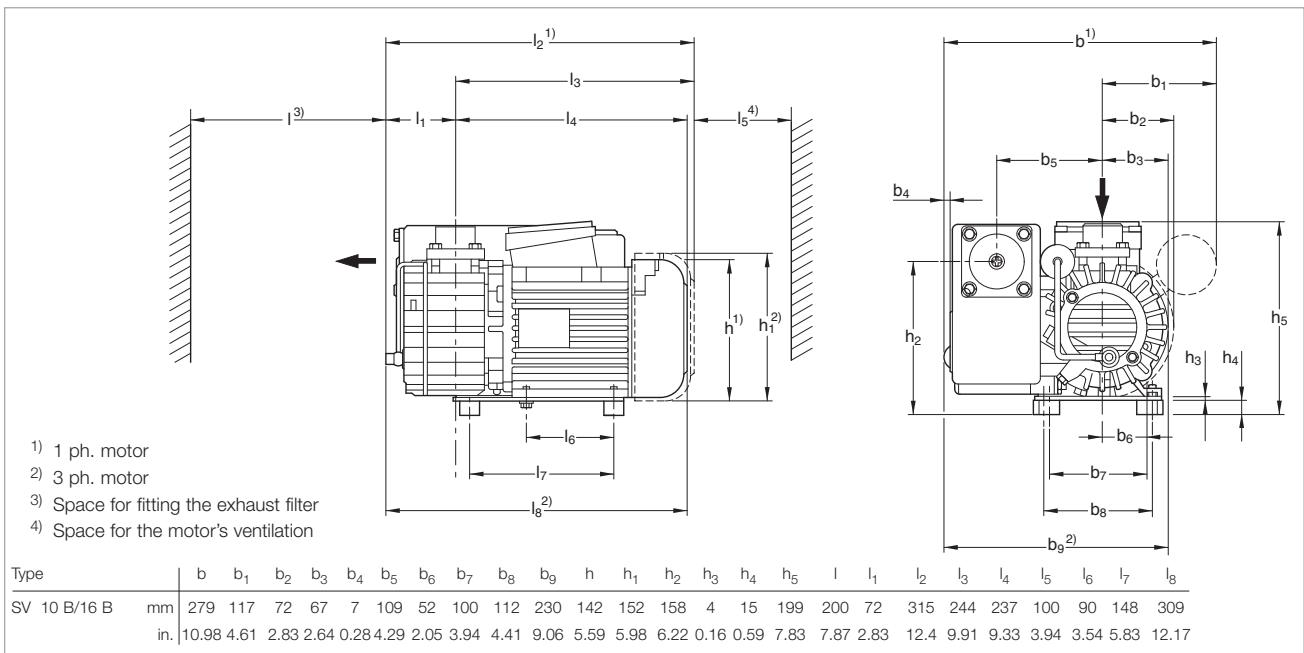
All pumps are delivered with the required quantity of oil: SV 10 B to SV 65 B in a separate canister, whereas the SV 100 B and larger pumps already contain the oil and are thus ready for operation.

Products

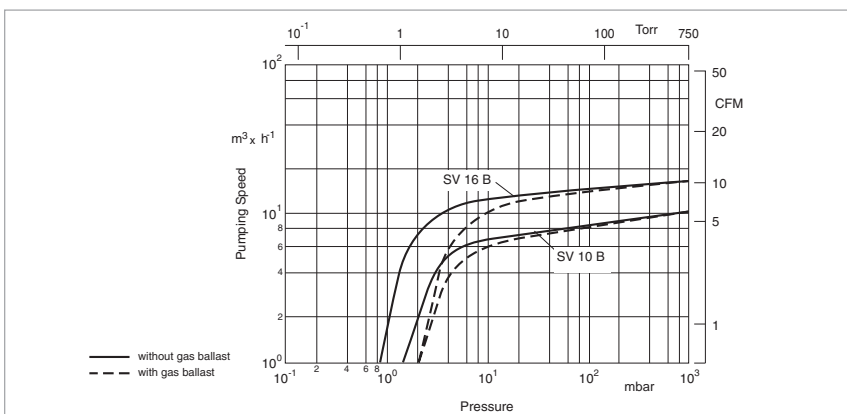
SOGEVAC SV 10 B / SV 16 B



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 section)

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 partial pressure without gas ballast ¹⁾	mbar (Torr)	≤ 1.5 (≤ 1.1)	≤ 1.5 (≤ 1.1)	≤ 1 (≤ 0.75)	≤ 1 (≤ 0.75)
Ultimate total pressure with gas ballast ¹⁾	mbar (Torr)	≤ 2.5 (≤ 1.9)	≤ 2.5 (≤ 1.9)	≤ 2 (≤ 1.5)	≤ 2 (≤ 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 (21)	30 (32)	30 (32)	50
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 (1φ) - 60 (3φ)	67 (1φ) - 64 (3φ)	62 (1φ) - 60 (3φ)	67 (1φ) - 64 (3φ)
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 (1.0)	0.75 (1.5)	0.55 (1.0)	0.75 (1.5)
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
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) 200 V, 50/60 Hz	Part No. 960 100 Part No. 960 115	Part No. 960 160 Part No. 960 175
with single-phase motor ⁴⁾ , with gas ballast 230 V, 50/60 Hz (CEI) 110-120 V, 60 Hz 100 V, 50/60 Hz	Part No. 960 105 Part No. 960 110 Part No. 960 114	Part No. 960 165 Part No. 960 170 Part No. 960 174
Other voltages/frequencies ⁵⁾	upon request	upon request
Filling with special oil	upon request	upon request
Exhaust filter cartridge AFE SV10B/16B	Part No. 714 13 280	Part No. 714 13 280
Exhaust connection G 3/4"	Part No. 971 433 140	Part No. 971 433 140
Repair kit	Part No. 714 22 230	Part No. 714 22 230
Maintenance kit	Part No. 971 444 430	Part No. 971 444 430
Seal kit FPM (FKM)	Part No. 714 22 220	Part No. 714 22 220

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)

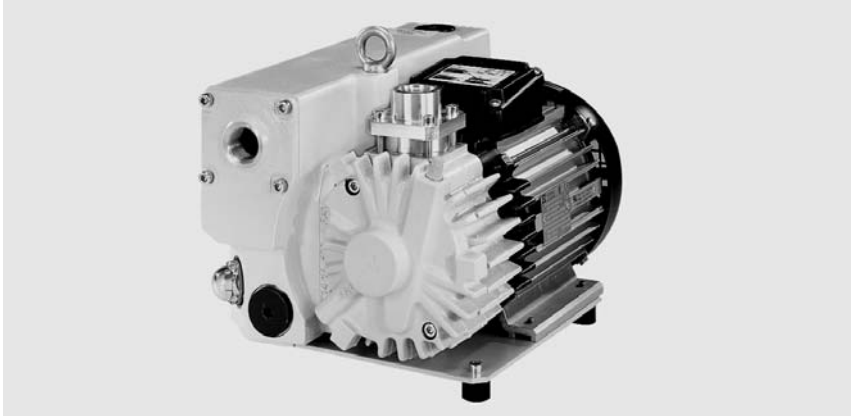
³⁾ 1/2" adapter supplied. Basic port is 3/4"

⁴⁾ Single-phase motors do not have plugs, cords or ON/OFF switches

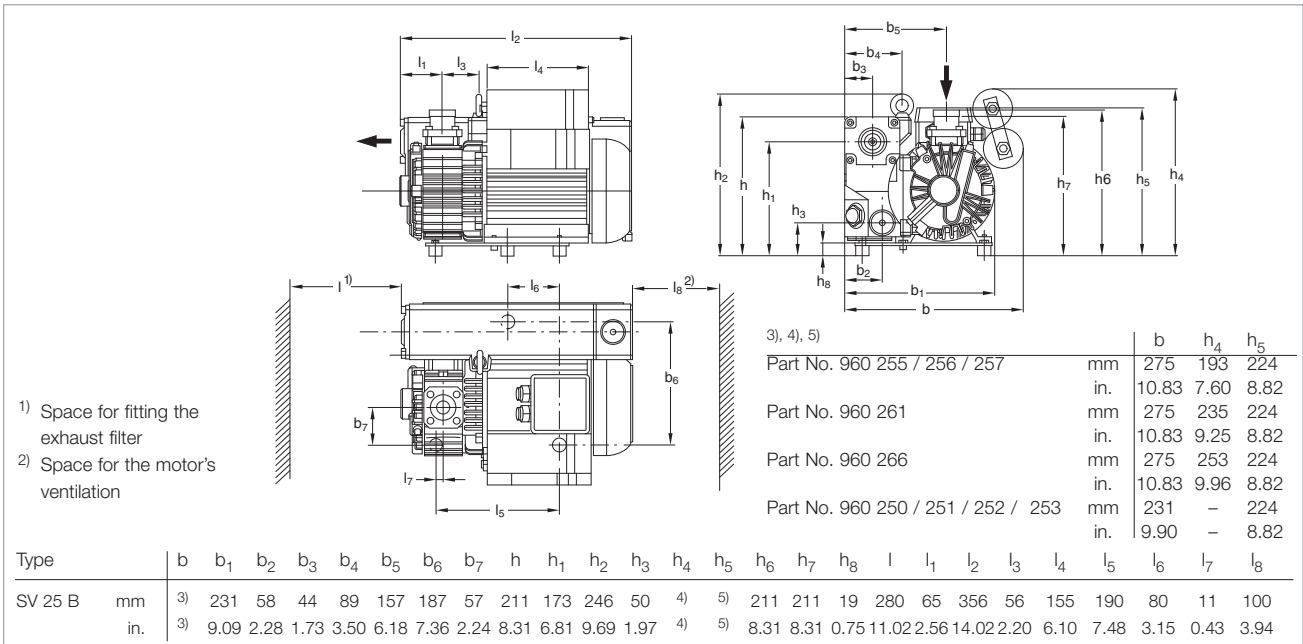
⁵⁾ Please indicate when ordering a pump

Remark: The SV 10 B and SV 16 B cannot work continuously above 150 mbar. Please consult Oerlikon Leybold Vacuum for this application

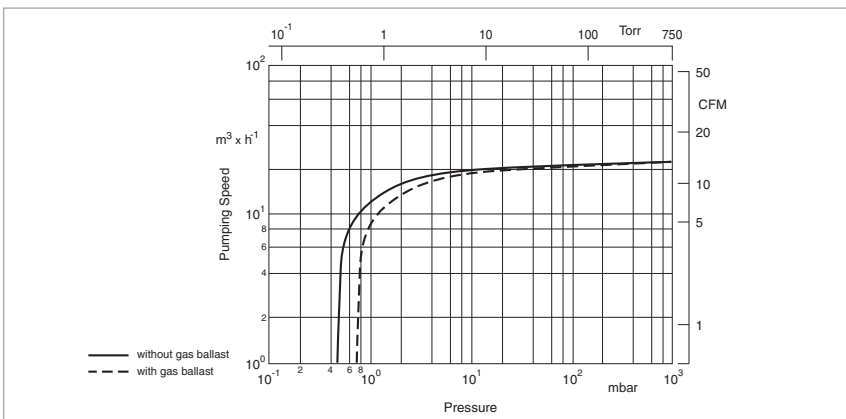
SOGEVAC SV 25 B



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 section)

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 partial 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 tolerance	g x h ⁻¹ (qt/hr)	85 (90)	100 (106)
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) [three-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

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)	Part No. 960 250
200-240/346-415 V, 50 Hz and 200-277/346-480 V, 60 Hz (CEI), NPT flanges	Part No. 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)	Part No. 960 251
200-240/346-415 V, 50 Hz and 200-277/346-480 V, 60 Hz (CEI), NPT flanges	Part No. 960 253
with single-phase motor, without gas ballast 230 V, 50/60 Hz (CEI)	Part No. 960 255
with single-phase motor, with gas ballast 230 V, 50/60 Hz (CEI)	Part No. 960 256
230 V, 50/60 Hz, NPT flanges (CEI)	Part No. 960 257
110-120 V, 60 Hz	Part No. 960 261
100 V, 50/60 Hz	Part No. 960 266
Other voltages/frequencies ⁵⁾	upon request
Filling with special oil ⁵⁾	upon request
Exhaust filter cartridge AFE SV25B	Part No. 714 16 340
Maintenance kit	Part No. 971 423 450
Repair kit	Part No. 971 423 100
Seal kit FPM (FKM)	Kat.-Nr. 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

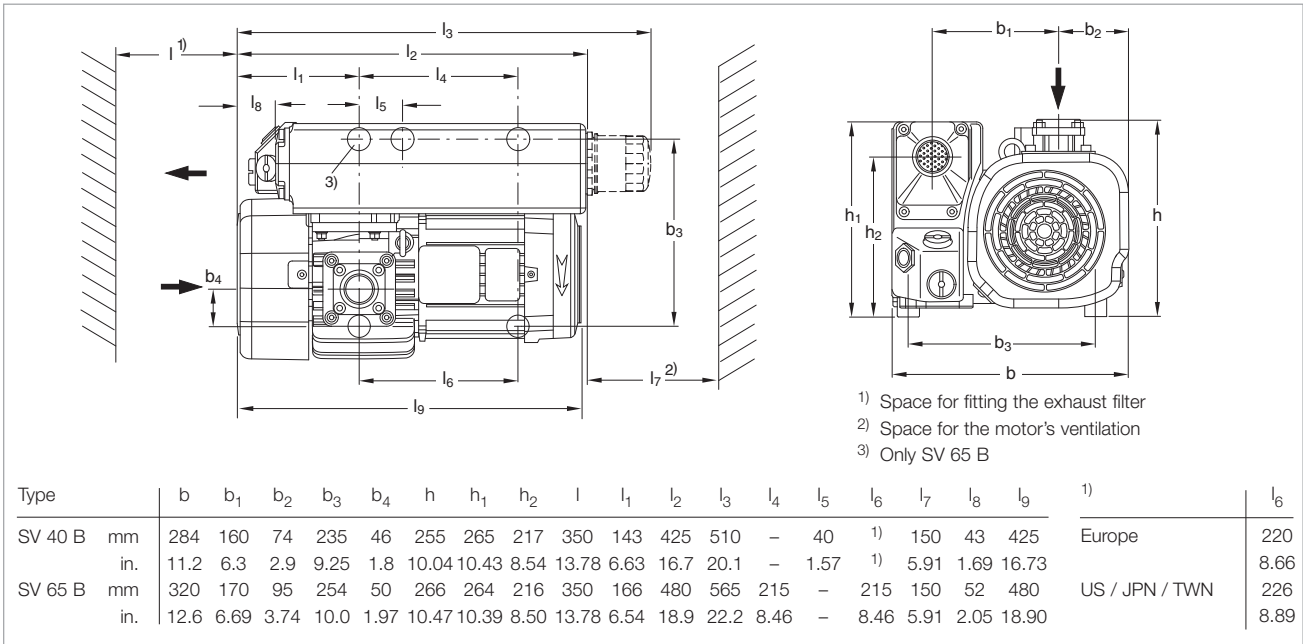
⁴⁾ 1/2" adapter supplied. Basic port is 3/4"

⁵⁾ Please indicate when ordering a pump

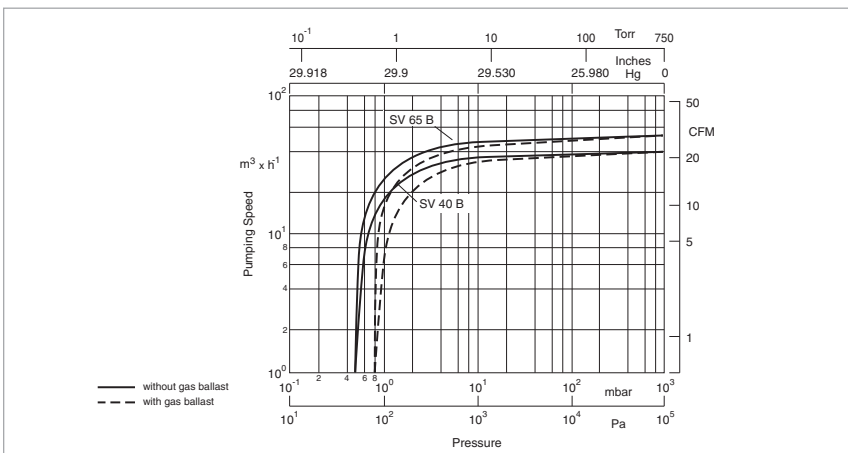
SOGEVAC SV 40 B / SV 65 B



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 section)

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 partial 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, Aluminum, Bronze, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper) Epoxy resin & Glass fibre	Steel, cast iron, Aluminum, Bronze, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper) Epoxy resin & Glass fibre	Steel, cast iron, Aluminum, Bronze, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper) Epoxy resin & Glass fibre	Steel, cast iron, Aluminum, 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 264 (18.9 x 12.6 x 10.4)	425 x 284 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 50/60 Hz

SOGEVAC SV 65 B 50/60 Hz

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

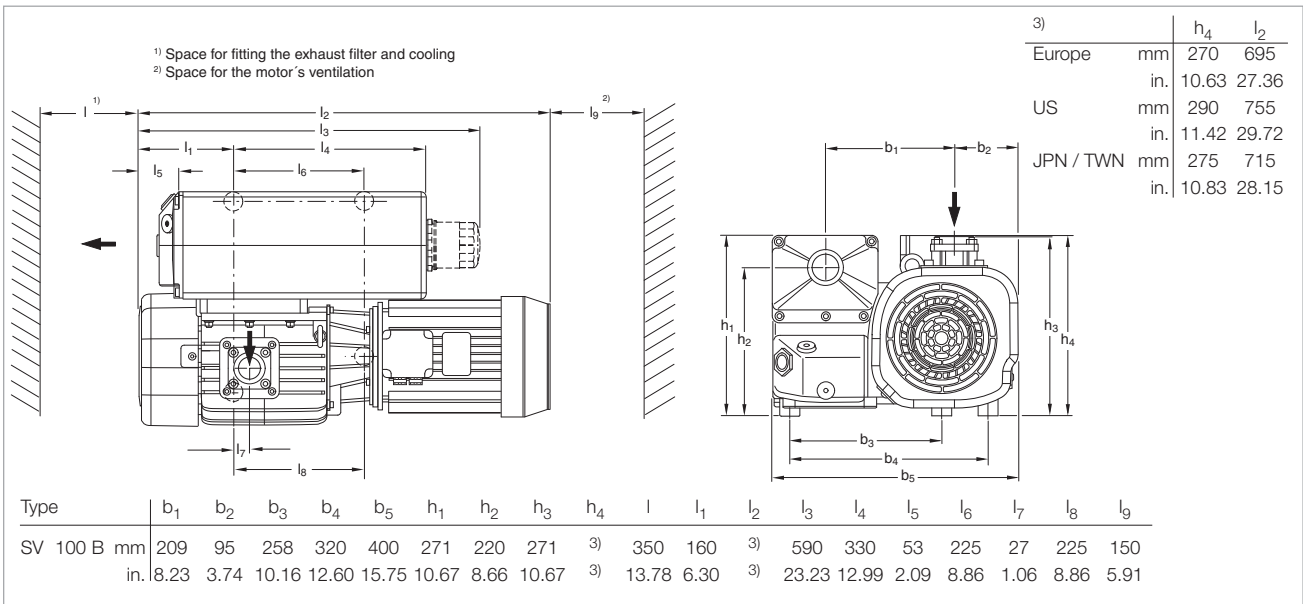
³⁾ Please indicate when ordering a pump

⁴⁾ Not included in maintenance kit

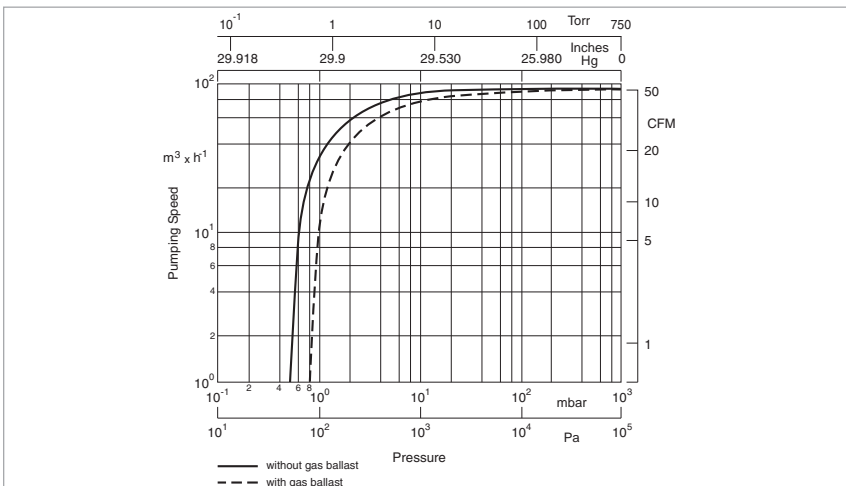
SOGEVAC SV 100 B



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 section)

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 partial 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 (≤ 1.0)	≤ 1.5 (≤ 1.0)
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 (5.0)	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, Aluminum, Bronze, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper), Epoxy resin & Glass fibre	Steel, cast iron, Aluminum, Bronze, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper), Epoxy resin & Glass fibre
Weight (with oil filling)	kg (lbs)	75 (165.6)	88 (194.3)
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

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



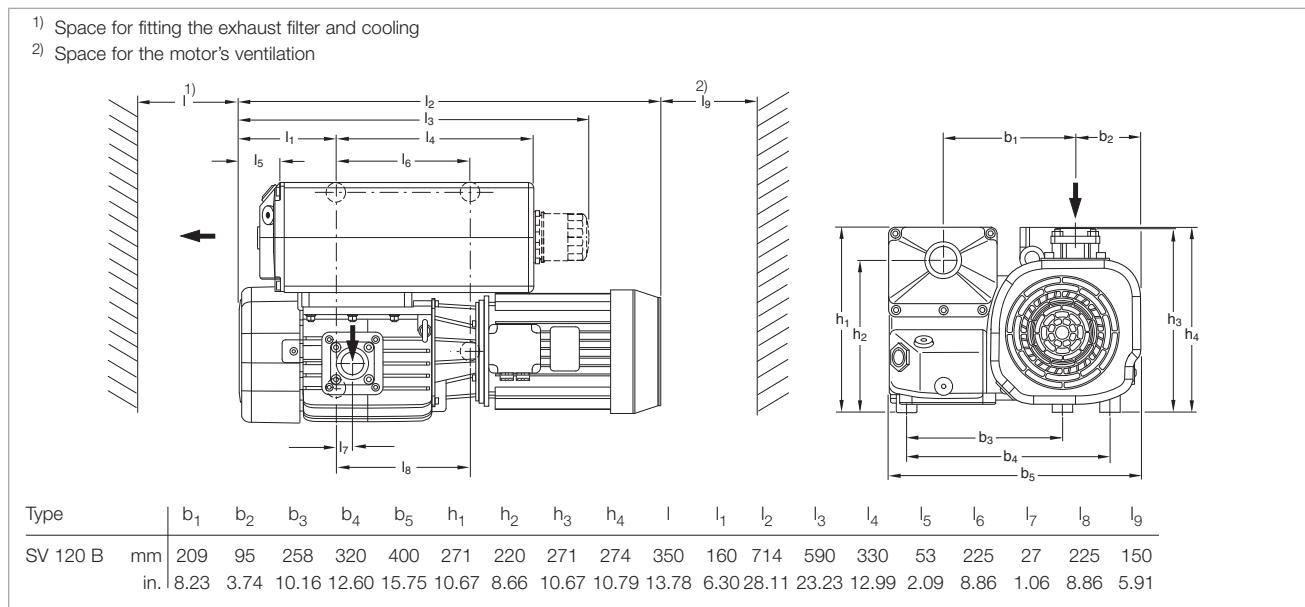
SOGEVAC SV 120 B

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
- Optimised 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 partial 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 (≤ 1.0)	≤ 1.5 (≤ 1.0)
Water vapor tolerance ¹ with standard gas ballast ²)	mbar (Torr)	30 (23)	30 (23)
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, Aluminum, Bronze, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper), Epoxy resin & Glass fibre	Steel, cast iron, Aluminum, Bronze, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper), Epoxy resin & Glass fibre
Oil capacity GS 77	l (qt)	2.0 (2.1)	2.0 (2.1)
Net weight (with oil filling)	kg (lbs)	88 (194)	88 (194)
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

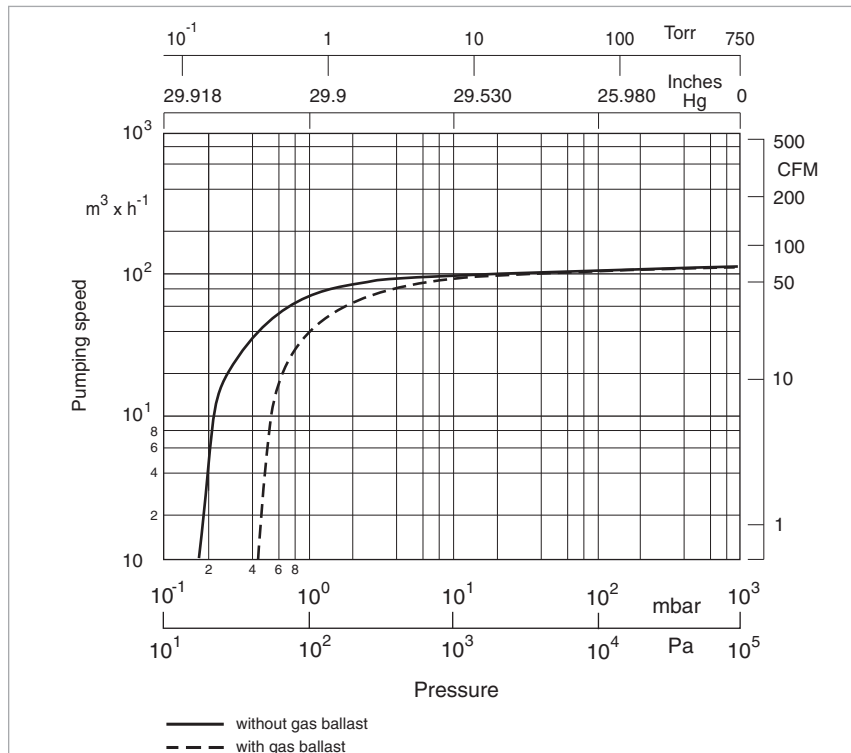
SOGEVAC SV 120 B ¹⁾ with three-phase motor 230/400 V ±10%, 50 Hz and 230/400/460 V ±10%, 60 Hz	
without gas ballast, without oil filter	Part No. 960 550 V (upon request)
with small gas ballast, without oil filter	Part No. 960 551
without gas ballast, with oil filter	Part No. 960 552 V (upon request)
with small gas ballast, with oil filter	Part No. 960 553
with standard gas ballast, without oil filter	Part No. 960 572
with standard gas ballast, with oil filter	Part No. 960 557
Other voltages/frequencies ²⁾	upon request
Filling with special oil ²⁾	upon request
RUVAC adapter	Part No. 971 448 740
Exhaust filter cartridge AFE SV65/100B ³⁾	Part No. 714 17 300
Maintenance kit	Part No. 971 427 690
Repair kit	Part No. 971 427 680
Oil filter ⁴⁾	Part No. 712 13 150
Oil filter bypass	Part No. 712 30 570

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

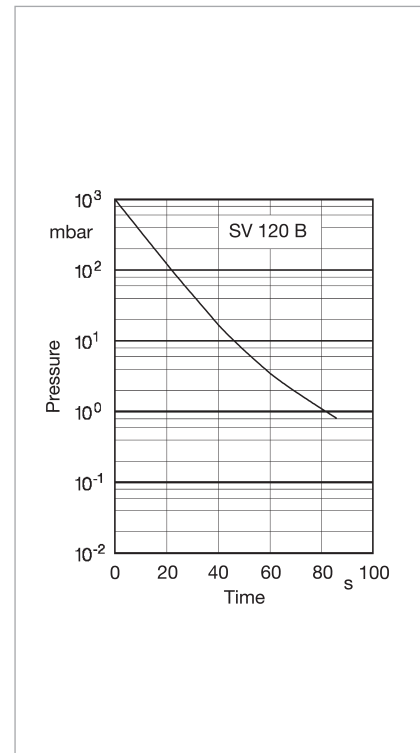
2) Please indicate when ordering a pump

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 section)



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

SOGEVAC SV 300 B



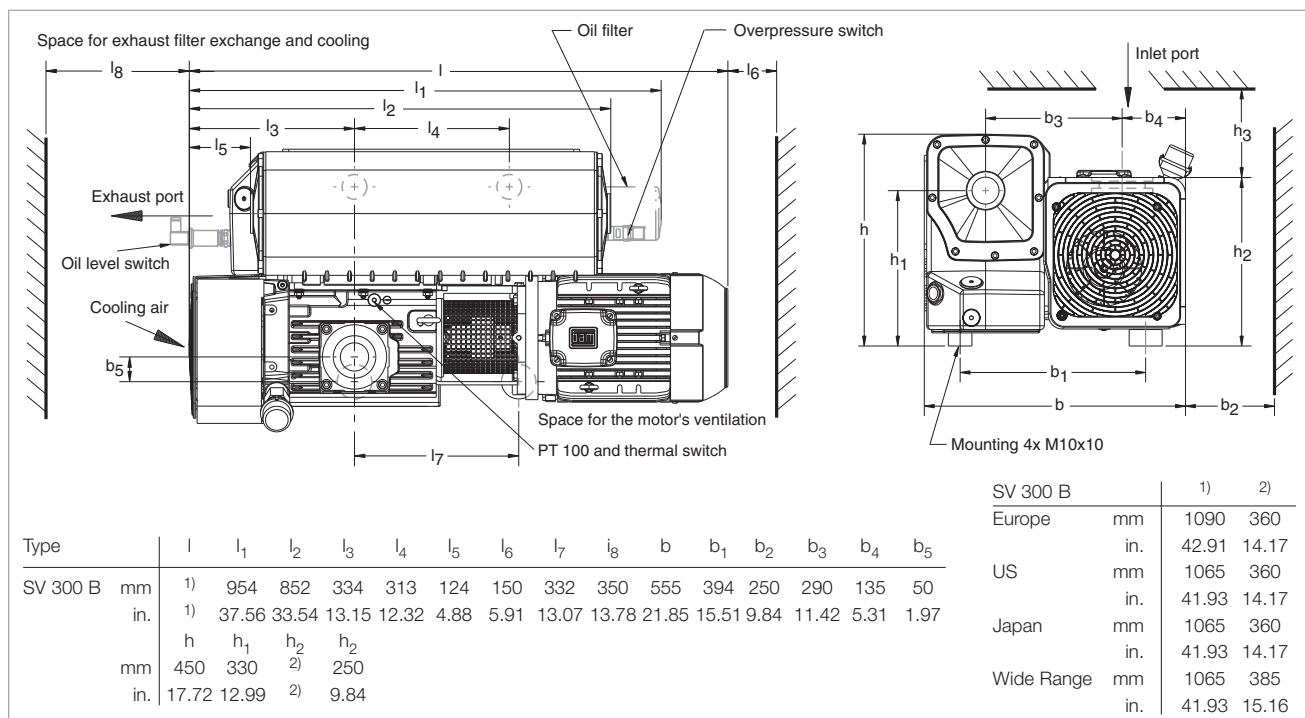
SOGEVAC SV 300 B

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
- Optimised 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 PNEUROP) ¹⁾	m ³ x h ⁻¹ (cfm)	240 (141)	290 (171)
Ultimate partial pressure without gas ballast ¹⁾	mbar (Torr)	≤ 0.08 (≤ 0.06)	≤ 0.08 (≤ 0.06)
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⁾	30 (23)	40 (30)
	with big gas ballast ²⁾	60 (45)	70 (53)
Water vapor capacity	with standard gas ballast	5.4 (5.7)	7.4 (7.8)
	with big gas ballast	10.0 (10.6)	12.5 (13.2)
Noise level (according to DIN 466535) ³⁾	dB(A)	70	74
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 GS 77, 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)	200 (430)
Dimensions (L x W x H)	mm (in.)	1090 x 555 x 450 (42.91 x 21.85 x 17.72)	1090 x 555 x 450 (42.91 x 21.85 x 17.72)
Connections ⁵⁾			
Intake, Thread	G or NPT	2"	2"
Exhaust, Thread	G or NPT	2"	2"

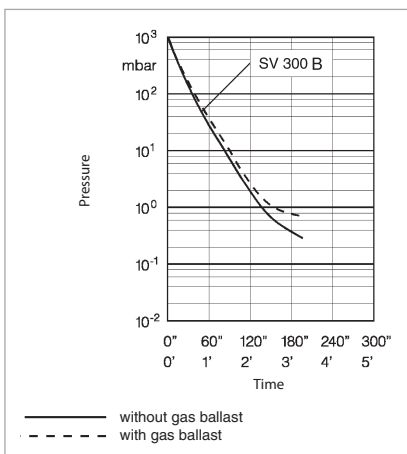
1) To DIN 28 400 and following numbers

2) Ordering Information see Section "Accessories"

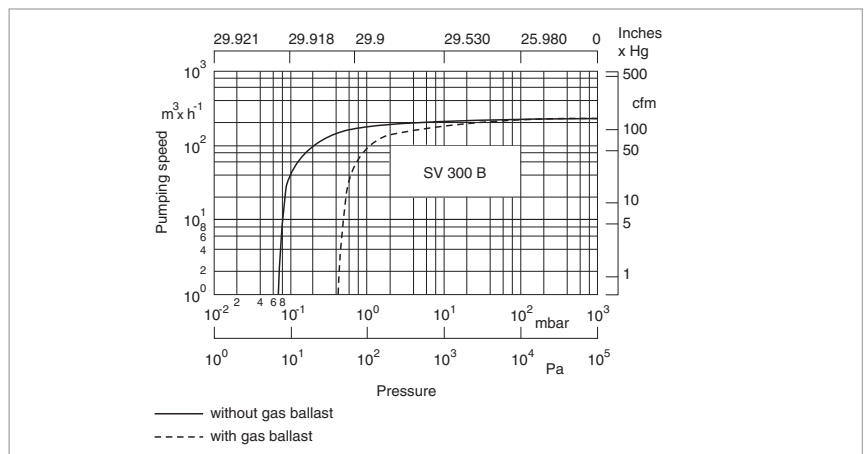
3) Operated at the ultimate pressure without gas ballast, free-field measurement at a distance of 1 m (3.5 ft)

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



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 section)

SOGEVAC SV 300 B

50/60 Hz

Ordering Information

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⁾	Part No. 960 700
with small gas ballast, 230/400 V ± 10%, 50 Hz and 460 V ± 10%, 60 Hz (CEI) ²⁾	Part No. 960 701
208 V ± 10%, 230/460 V ± 10%, 60 Hz and 400 V ± 10%, 50 Hz (NEMA) ²⁾	Part No. 960 706
200 V + 10% - 15%, 50/60 Hz (JIS) ¹⁾	Part No. 960 711 V
with standard gas ballast, 230/400 V ± 10%, 50 Hz and 460 V ± 10%, 60 Hz (CEI) ²⁾	Part No. 960 702
208 V ± 10%, 230/460 V ± 10%, 60 Hz and 400 V ± 10%, 50 Hz (NEMA) ²⁾	Part No. 960 707
200 V + 10% - 15%, 50/60 Hz (JIS) ¹⁾	Part No. 960 712
with big gas ballast, 230/400 V ± 10%, 50 Hz and 460 V ± 10%, 60 Hz (CEI) ²⁾	Part No. 960 703
208 V ± 10%, 230/460 V ± 10%, 60 Hz and 400 V ± 10%, 50 Hz (NEMA) ²⁾	Part No. 960 708
200 V + 10% - 15%, 50/60 Hz (JIS) ¹⁾	Part No. 960 713 V
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	Part No. 960 716 V ³⁾
with standard gas ballast	Part No. 960 717 ³⁾
with big gas ballast	Part No. 960 718 ³⁾

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

²⁾ F and P inlet

Connections (thread and plugs) provided 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

Accessories	
Adaptor for Roots pump ^{1), 2)} RUVAC 501 (BR 2) RUVAC 1001 (BR 2)	Part No. 971 463 880 Part No. 971 463 890
Mounting pedestal for fitting to a Roots pump	Part No. 971 456 590
Oil level monitor ^{1), 2)} (several types are available)	upon request
Thermal switch ²⁾	Part No. 971 463 930
Resistance thermometer PT 100 sensor ²⁾	Part No. 971 464 020
Exhaust filter gauge, mechanical ^{1), 2)}	Part No. 951 94
Exhaust filter monitoring switch, electric ¹⁾	upon request
Manual gas ballast kit ²⁾ (incl. small, standard and big)	Part No. 971 464 130
Gas ballast valve, electromagnetic 24 V DC ^{1), 2)}	upon request
Two gas ballast valves ¹⁾	upon request
Water cooling with thermostatic valve ¹⁾	upon request
Oil filter bypass ^{1), 2)}	Part No. 712 30 570
Spare Parts	
Oil filter	Part No. 710 18 850
Exhaust filter cartridge (3x required) AFE SV 300 B - SV 750 B	Part No. 971 431 120
Vanes (set of 3 pieces)	Part No. 971 446 880
Set of gaskets FPM (FKM) (standard)	Part No. 971 464 950
Repair kit complete	Part No. 971 464 960
Maintenance kit complete	Part No. 971 464 970
Generator complete G 2" NPT 2"	Part No. 971 447 390 Part No. 971 458 970

¹⁾ Please indicate when ordering a pump

²⁾ Can be retrofitted

SOGEVAC SV 500 B



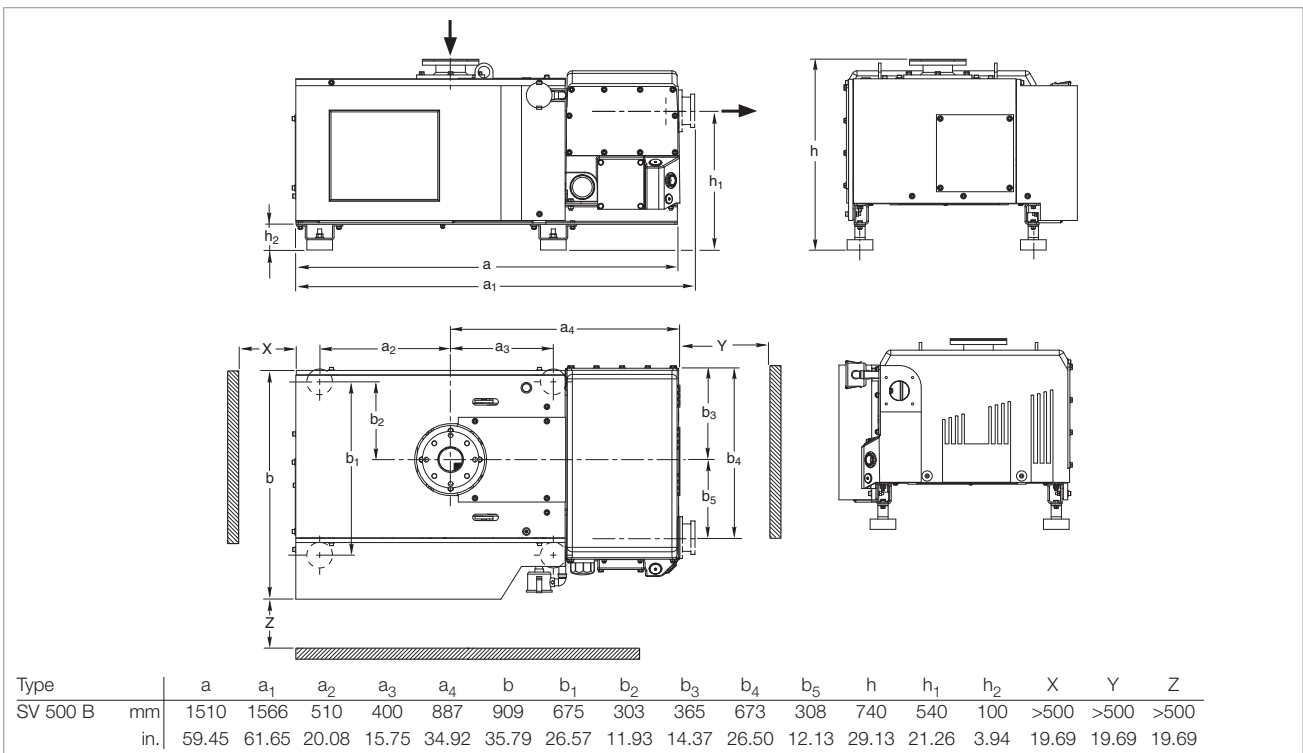
SOGEVAC SV 500 B

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
- Optimised 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 partial 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 (≤ 0.53)	≤ 0.7 (≤ 0.53)
Water vapor tolerance with standard gas ballast	mbar (Torr)	40 (30)	40 (30)
Water vapor capacity with 1 gas ballast	l/h (qt/h)	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 GS 77, 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)	630 (1390)	630 (1390)
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

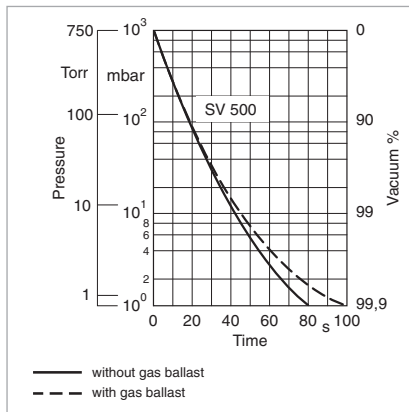
¹⁾ To DIN 28 400 and following numbers

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

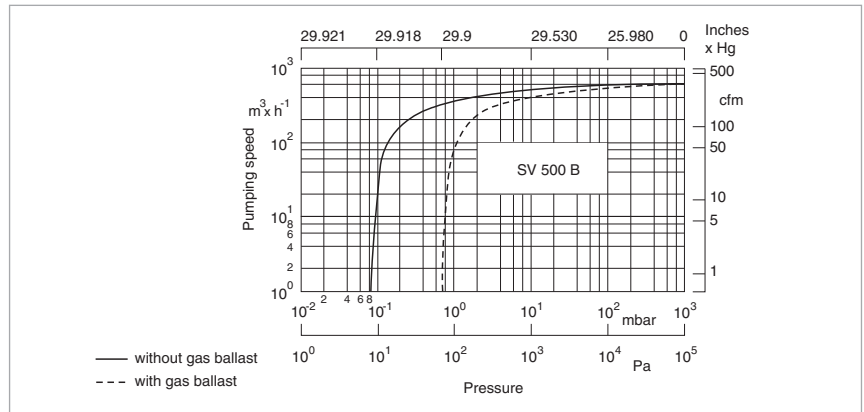
³⁾ Valid NEMA variants. Values for Japan (JIS motors) upon request

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 section)

Ordering Information

SOGEVAC SV 500 B 50/60 Hz

<p>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</p>	Part No. 960 852 V
<p>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</p>	Part No. 960 853 V
<p>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</p>	Part No. 960 855 V
<p>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</p>	upon request
<p>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</p>	upon request
<p>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</p>	upon request
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)

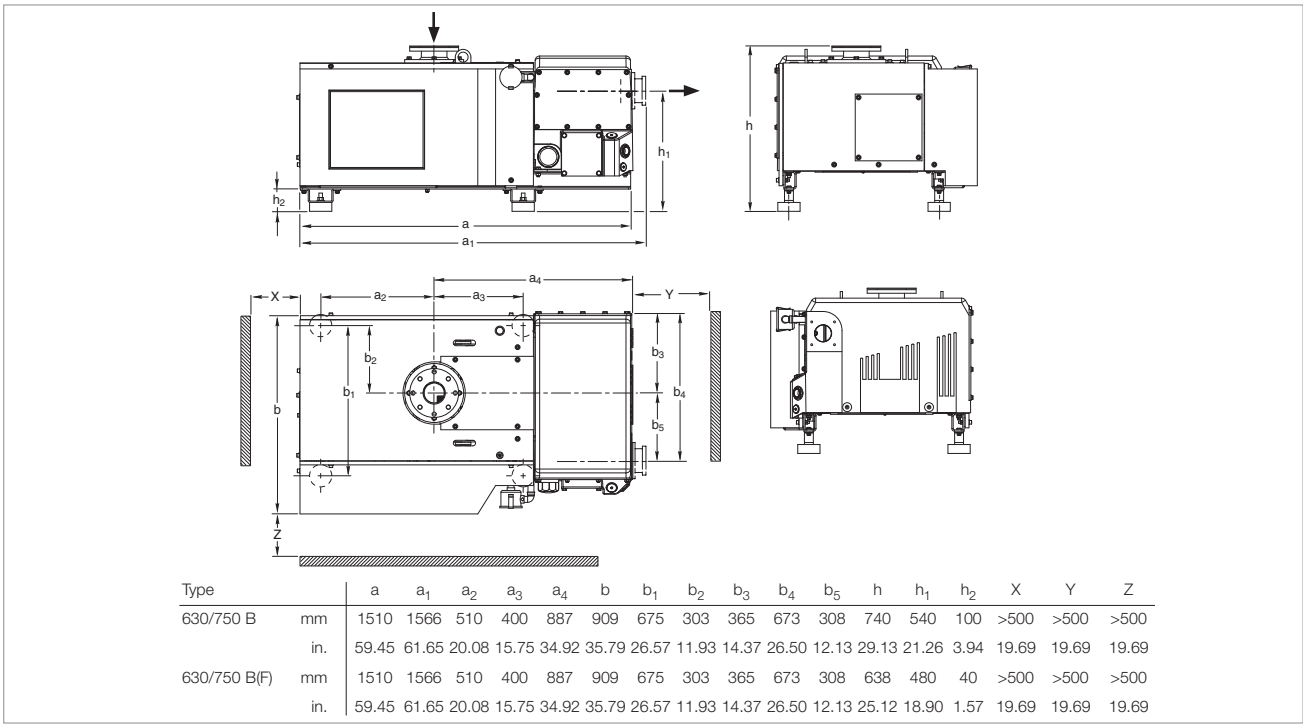
Ordering Information**SOGEVAC SV 500 B****50/60 Hz**

Accessories	
Adapter for Roots pump Roots adapter 1000 Roots adapter 2000	Part No. 971 432 340 Part No. 971 432 350
Oil drain valve	Part No. 711 30 114
Gas ballast kit electromagnetic, 24 V DC	Part No. 971 438 170
Gas ballast, standard manual	Part No. 971 446 490
2. gas ballast valve electromagnetic, 24 V DC manual	Part No. 971 438 160 Part No. 971 438 340
Exhaust filter monitoring gauge	Part No. 951 94
Oil level check	Part No. 971 425 760
Temperature switch	standard
Water cooling with thermostatic valve	upon request
Intake kit DN 100 ISO-K	standard
Exhaust filter overpressure switch	Part No. 712 36 360
Oil filter bypass	Part No. 712 36 390
Spare Parts	
Oil filter, standard	Part No. 714 05 310
Exhaust filter AFE SV630/SV750B/SV300B (6 are required)	Part No. 971 431 120
Intake filter element Paper Metal Activated charcoal Polyester	Part No. 710 35 242 Part No. 710 37 734 Part No. 710 37 724 Part No. 712 61 508
Seal kit FPM (FKM)	Part No. 971 437 310
Repair kit, complete	Part No. 971 437 320
Generator kit	Part No. 971 437 330
Maintenance kit	Part No. 971 437 340

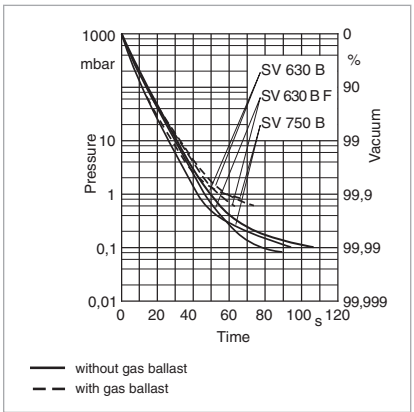
SOGEVAC SV 630 B / 630 BF / 750 B(F)



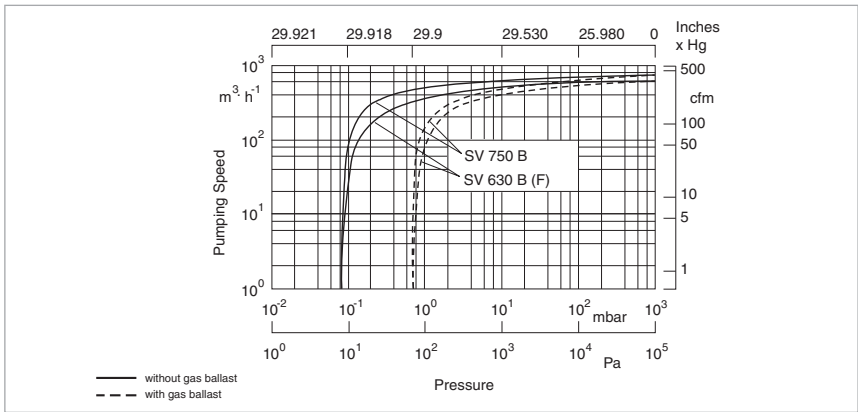
SOGEVAC SV 630 B



Dimensional drawing for the SOGEVAC SV 630 B(F) und 750 B



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



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

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 partial 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 vapour quantity 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 (25.0)	18.5 (25.0)	15.0 (25.0)	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			–	–	water	water	Oil
Thermostatic valve			–	–	yes	yes	–
Temperature protection Pump			yes	yes	yes	yes	yes
Motor			–	–	yes	yes	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, Aluminum, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper), Epoxy resin & Glass fibre	Steel, cast iron, Aluminum, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper), Epoxy resin & Glass fibre	Steel, cast iron, Aluminum, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper), Epoxy resin & Glass fibre	Steel, cast iron, Aluminum, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper), Epoxy resin & Glass fibre	Steel, cast iron, Aluminum, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper), Epoxy resin & Glass fibre
Weight (with oil fillung)	kg (lbs)		650 (1435)	650 (1435)	650 (1435)	650 (1435)	650 (1435)
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)	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)	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

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

²⁾ Please ask Oerlikon Leybold Vacuum for more information

Ordering Information

SV 630 B 50/60 Hz

SOGEVAC SV 630 BF 50/60 Hz

SV 750 B/BF 50 Hz

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

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

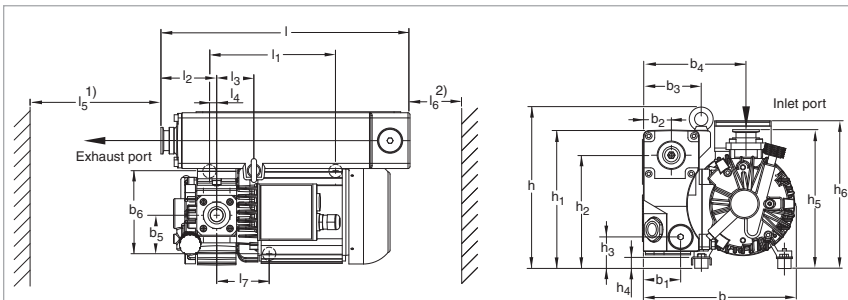
SOGEVAC SV 16 BI



SOGEVAC SV 16 BI

Advantages to the User

- 1 decade better ultimate pressure compared to SOGEVAC SV 16 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



- 1) Space for exhaust filter exchange and cooling
- 2) Space for the motor's ventilation

Type	b	b ₁	b ₂	b ₃	b ₄	b ₅	b ₆	h	h ₁	h ₂	h ₃	h ₄	h ₅	h ₆	
SV 16 BI	mm	231	58	44	89	156	58	125	243	208	170	47	17	209	222
	in.	9.09	2.28	1.73	3.50	6.14	2.28	4.92	9.57	8.19	6.69	1.85	0.67	8.23	8.74

Type	l	l ₁	l ₂	l ₃	l ₄	l ₅	l ₆	l ₇	
SV 16 BI	mm	375	190	84	56	11	280	100	79
	in.	14.76	7.48	3.31	2.20	0.43	11.02	3.94	3.11

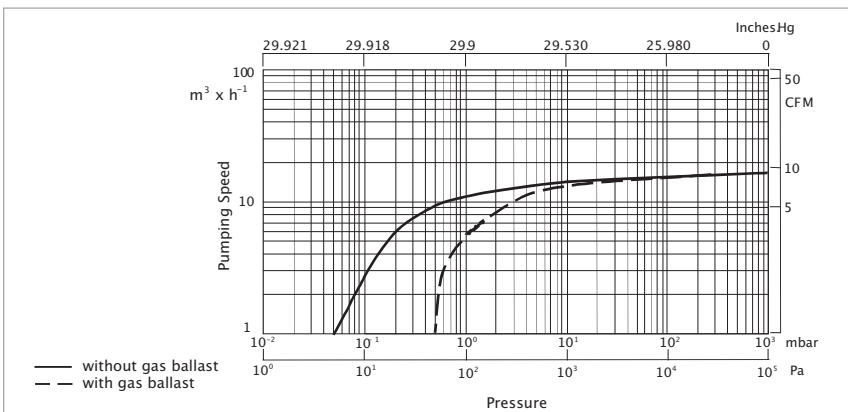
Typical Applications

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

Supplied Equipment

- Switch and power cord on single phase pumps

Dimensional drawing for the SOGEVAC SV 16 BI



Pumping speed characteristics of the SOGEVAC SV 16 BI at 50 Hz (60 Hz curves at the end of the section)

Technical Data

SOGEVAC SV 16 BI

		50 Hz	60 Hz
Nominal pumping speed	m ³ x h ⁻¹ (cfm)	18.0 (10.6)	20.5 (12.1)
Pumping speed (according to PNEUROP)	m ³ x h ⁻¹ (cfm)	16.5 (9.7)	19.0 (11.2)
Ultimate partial 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	g x h ⁻¹ (qt/hr)	30.0 (0.03)	50.0 (0.05)
Motor power			
three-phase	kW (hp)	0.55 (0.75)	0.65 (0.88)
single-phase	kW (hp)	0.55 (0.75)	0.65 (0.88)
Mains voltage and frequency	V	see "Ordering Information"	see "Ordering Information"
Rated rotational speed	min ⁻¹ (rpm)	1500 (1500)	1800 (1800)
Type of protection			
three-phase	IP	55-F	55-F
single-phase	IP	54-F	54-F
Leak rate	mbar x l x s ⁻¹	≤ 1 x 10 ⁻³	≤ 1 x 10 ⁻³
Oil capacity	l (qt)	0.5 (0.53)	0.5 (0.53)
Weight (with oil)			
three-phase	kg (lbs)	26 (57.4)	26 (57.4)
single-phase	kg (lbs)	27 (59.6)	27 (59.6)
Connections			
intake	DN	25 KF	25 KF
exhaust	DN	25 KF	25 KF

Ordering Information

SOGEVAC SV 16 BI 50/60 Hz

SOGEVAC SV 16 BI with three-phase motor without gas ballast 230/400 V, 50 Hz and 230/400 - 460 V, 60 Hz	Part No. 960 280
with gas ballast 230/400 V, 50 Hz and 230/400 - 460 V, 60 Hz	Part No. 960 281
with single-phase motor with gas ballast 230 V, 50/60 Hz	Part No. 960 286
Other voltages/frequencies	upon request
Filling with special oil	upon request
Exhaust filter cartridge AFE SV10B/16B	Part No. 714 16 340
Repair kit	Part No. 971 443 220
Set of seals	Part No. 714 19 490
Service kit	Part No. 971 423 450
For further accessories on pump inlet see Chapter "Accessories for TRIVAC" in the Product Section C01 "TRIVAC"	

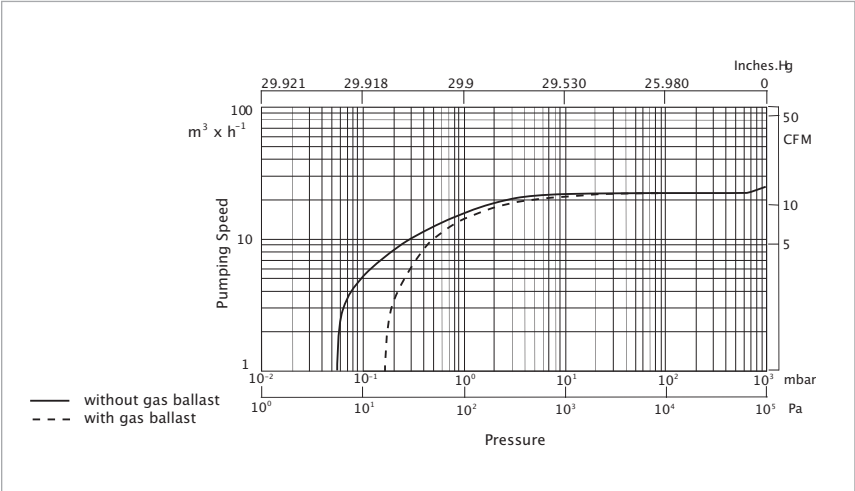
SOGEVAC SV 28 BI



SOGEVAC SV 28 BI

Advantages to the User

- 1 decade better ultimate pressure compared to SOGEVAC SV 28 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 section)

Typical Applications

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

Technical Data

SOGEVAC SV 28 BI

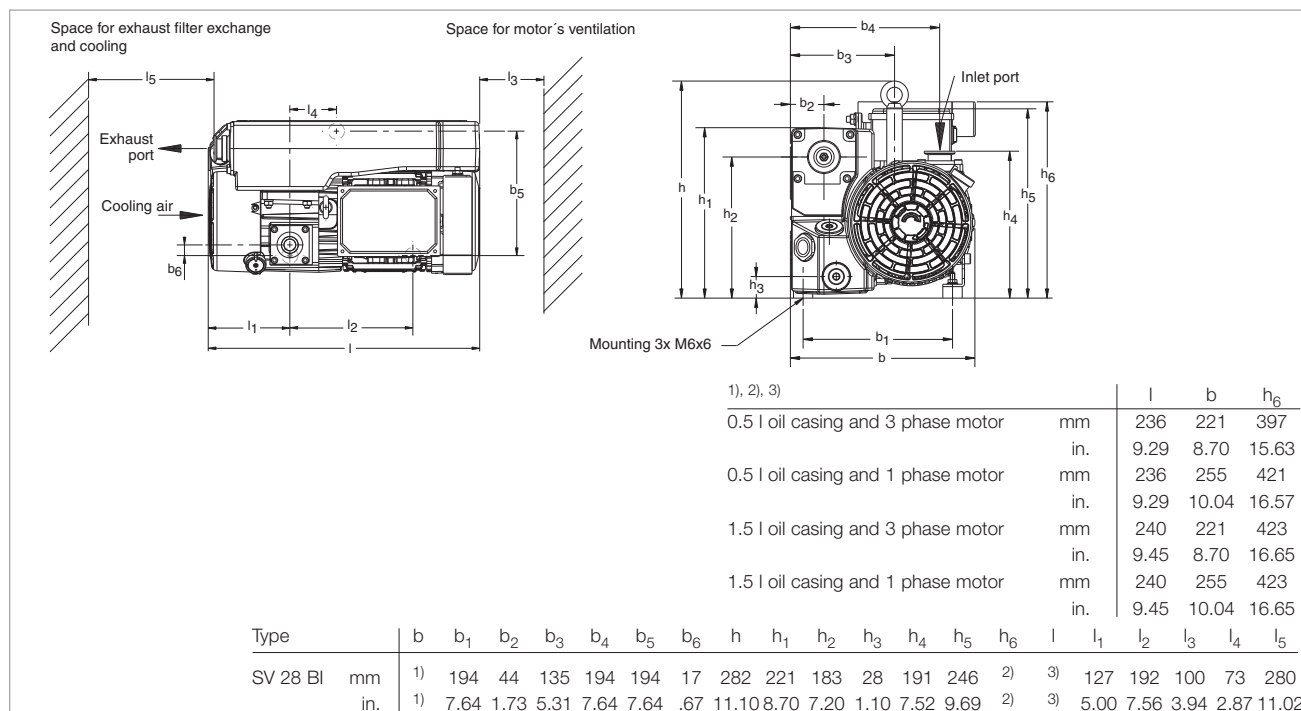
		50 Hz	60 Hz
Nominal pumping speed	m ³ x h ⁻¹ (cfm)	25 (14.8)	30 (17.8)
Pumping speed (according to PNEUROP)	m ³ x h ⁻¹ (cfm)	23 (13.6)	27 (15.9)
Ultimate partial pressure without gas ballast	mbar (Torr)	≤ 0.05 (≤ 0.038)	≤ 0.05 (≤ 0.038)
Ultimate total pressure with gas ballast	mbar (Torr)	≤ 0.5 (≤ 0.38)	≤ 0.5 (≤ 0.38)
Water vapor tolerable load with gas ballast	mbar (Torr)	10.0 (7.6)	10.0 (7.6)
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 GS 32 (depending on Part No.)	l (qt)	0.5 (0.53) or 1.5 (1.59)	0.5 (0.53) or 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

SOGEVAC SV 28 BI

50/60 Hz

Ordering Information

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 without gas ballast, with 0.5 l oil casing	Part No. 960 270
with gas ballast, with 0.5 l oil casing	Part No. 960 271
without gas ballast, with 1.5 l oil casing	Part No. 960 272
with gas ballast, with 1.5 l oil casing	Part No. 960 273
with wide range three-phase motor 180 - 264 V, 50/60 Hz with gas ballast, with 0.5 l oil casing	Part No. 960 276
with gas ballast, with 1.5 l oil casing	Part No. 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	Part No. 960 278
Other voltages/frequencies	upon request
Filling with special oil	upon request
Exhaust filter cartridge AFE SV10B/16B	Part No. 714 16 340
Repair kit	Part No. 971 462 690
Set of seals FPM (FKM)	Part No. 971 462 670
Service kit	Part No. 971 427 660
Generator kit three-phase	Part No. 971 462 620
single-phase	Part No. 971 462 630
Maintenance kit	Part No. 971 462 810
For further accessories on pump inlet see Chapter "Accessories for TRIVAC" in the Product Section C01 "TRIVAC"	



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

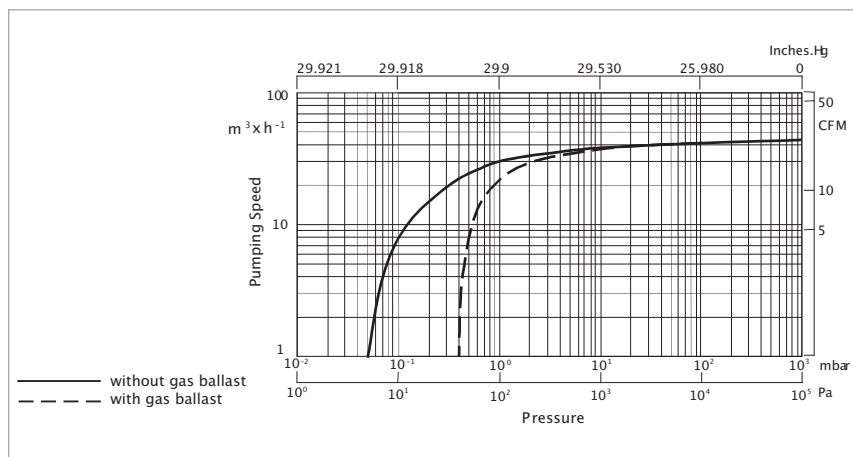
SOGEVAC SV 40 BI



SOGEVAC SV 40 BI

Advantages to the User

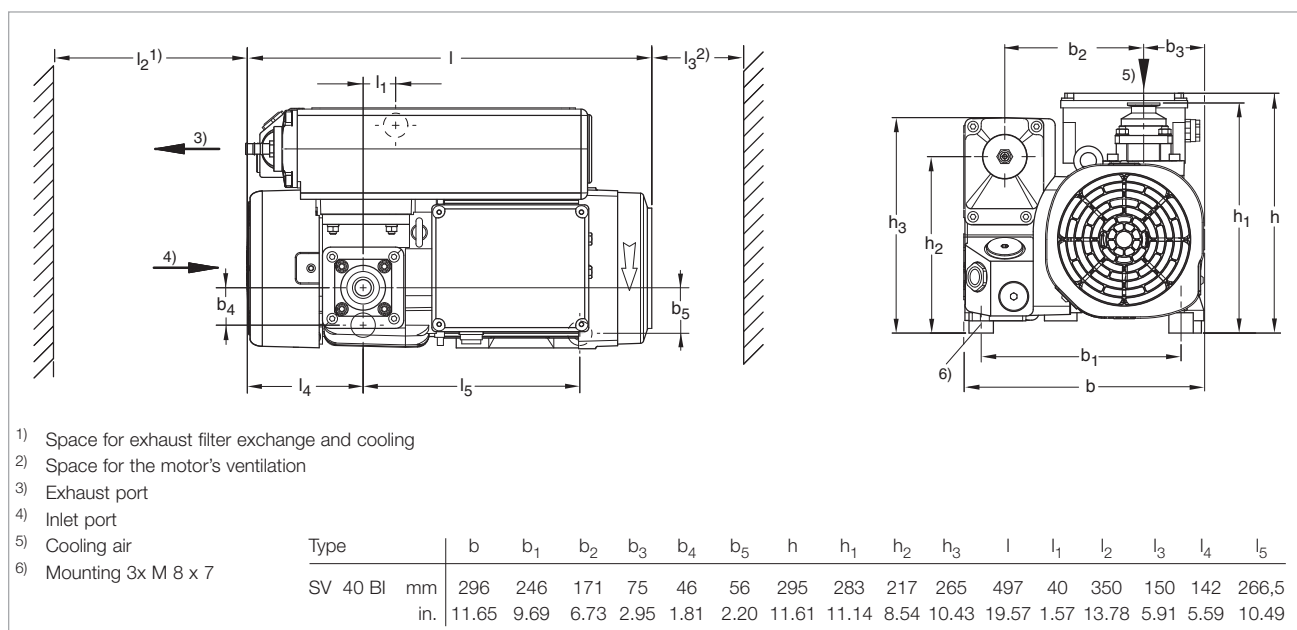
- 1 decade better ultimate pressure compared to SOGEVAC SV 40 B
- Integrated exhaust filter
- Integrated oil recovery system and anti suckback valve
- Extremely low noise level
- High reliability
- Variant concept
- Customer specific configurations
- High pumping speed stability at low pressure



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

Typical Applications

- Mass spectrometry
- Lyophilisation
- Laboratory
- Refrigeration and air-conditioning
- 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 partial 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	kg x h ⁻¹ (qt/hr)	0.28 (0.30)	0.34 (0.35)
Motor power	kW (hp)	1.1 (2.0)	1.3 (2.0)
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

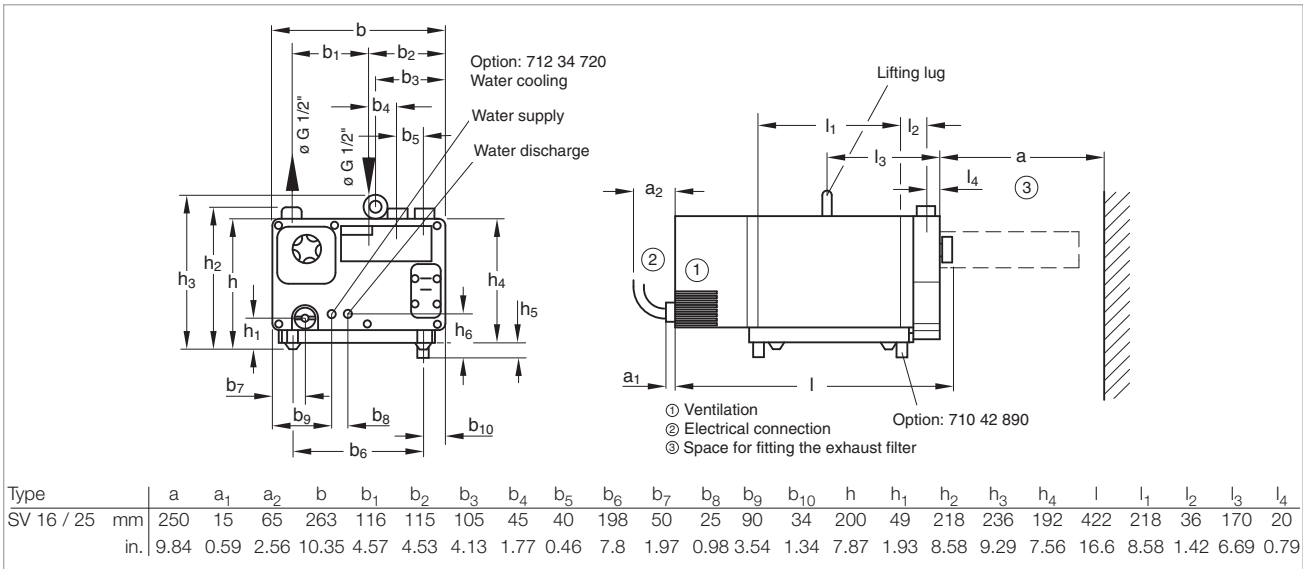
SOGEVAC SV 40 BI 50/60 Hz

SOGEVAC SV 40 BI with three-phase motor without gas ballast 230/400 V, 50 Hz and 460 V, 60 Hz	Part No. 960 330
with small gas ballast 230/400 V, 50 Hz and 460 V, 60 Hz	Part No. 960 331
Other voltages/frequencies or single-phase motors	upon request
Filling with special oil	upon request
Exhaust filter cartridge AFE SV40B	Part No. 714 21 180
Repair kit	Part No. 971 443 150
Set of seals	Part No. 971 427 640
Service kit	Part No. 971 427 660
Vacuum generator with gas ballast	Part No. 971 443 160
without gas ballast	Part No. 971 443 170
For further accessories on pump inlet see Chapter "Accessories for TRIVAC" in the Product Section C01 "TRIVAC"	

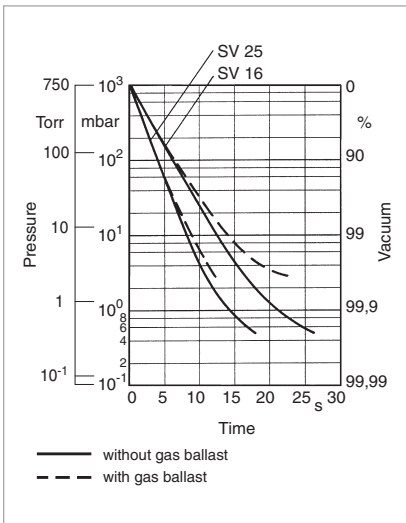
SOGEVAC SV 16 and SV 25



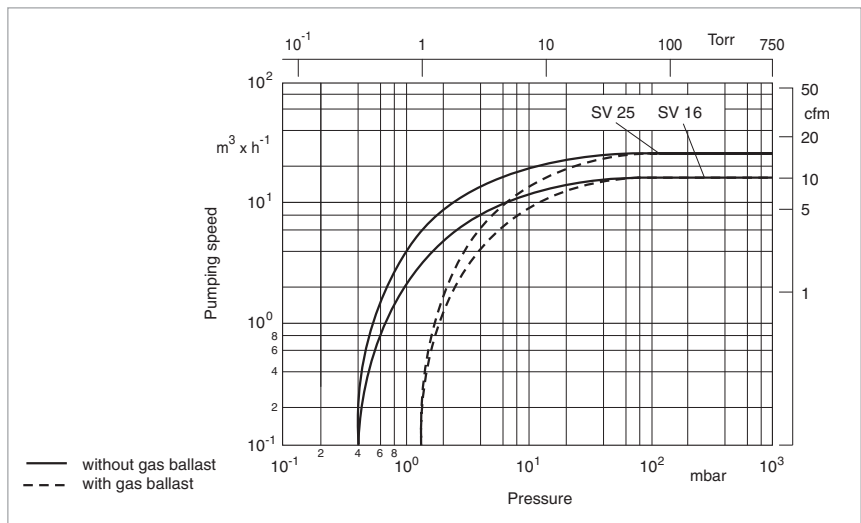
SOGEVAC SV 25



Dimensional drawing for the SOGEVAC SV 16 and SV 25



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



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

Technical Data

		SOGEVAC SV 16		SOGEVAC SV 25	
		50 Hz	60 Hz	50 Hz	60 Hz
Nominal speed ¹⁾	m ³ x h ⁻¹ (cfm)	16.0 (9.4)	19.0 (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 partial 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 with 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)	40 (30)	40 (30)	40 (30)	40 (30)
Water vapor capacity	kg x h ⁻¹ (qt/hr)	0.3 (0.32)	0.3 (0.32)	0.45 (0.48)	0.45 (0.48)
Oil capacity	l (qt)	1.8 (2.0)	1.8 (2.0)	1.8 (2.0)	1.8 (2.0)
Noise level ²⁾	dB(A)	59	59	59	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 power	kW (hp)	0.55 (1.0)	0.75 (1.5)	0.75 (1.5)	0.9 (1.2)
Nominal speed	min ⁻¹ (rpm)	1500 (1500)	1800 (1800)	1500 (1500)	1800 (1800)
Type of protection	IP	23	23	23	23
Weight (with oil filling)	kg (lbs)	23.0 (50.7)	23.0 (50.7)	24.0 (52.9)	24.0 (52.9)
Dimensions (L x W x H)	mm (in.)	422 x 263 x 236 (16.61 x 10.35 x 9.29)	422 x 263 x 236 (16.61 x 10.35 x 9.29)	422 x 263 x 236 (16.61 x 10.35 x 9.29)	422 x 263 x 236 (16.61 x 10.35 x 9.29)
Connections, Intake and Exhaust ³⁾ (Inside thread)	G	1/2"	1/2"	1/2"	1/2"

Ordering Information

	SOGEVAC SV 16 50 Hz/60 Hz	SOGEVAC SV 25 50 Hz/60 Hz
SOGEVAC SV 16/SV 25 ³⁾ with three-phase motor and integrated gas ballast valve 230/400 V, 50 Hz	Part No. 109 01	Part No. 109 03
208 - 230/460 V, 60 Hz	Part No. 109 80	Part No. 109 90
200 V, 50/60 Hz	Part No. 955 01	Part No. 955 03
with single-phase motor and integrated gas ballast valve 100 V, 50 Hz	Part No. 955 30	Part No. 955 32
230 V, 50 Hz	Part No. 109 00	Part No. 109 02
115 V, 60 Hz	Part No. 109 81	Part No. 109 91
230 V, 60 Hz	Part No. 109 82	Part No. 109 92
Other voltages/frequencies ⁴⁾	upon request	upon request
Filling with special oil	upon request	upon request

Accessories

Water cooling kit ^{4), 5)}	Part No. 712 34 720	Part No. 712 34 720
Oil level monitor ^{4), 5)}	Part No. 711 19 108	Part No. 711 19 108
Exhaust filter gauge, mechanical ^{4), 5)}	Part No. 951 91	Part No. 951 91

Spare Parts

Exhaust filter cartridge AFE SV16/25 BR2	Part No. 712 32 023	Part No. 712 32 023
Vanes (set of 3 pieces)	Part No. 712 34 370	Part No. 712 34 370
Set of gaskets NBR (standard)	Part No. 971 97 152	Part No. 971 97 152
Set of gaskets FPM (FKM)	Part No. 712 30 010	Part No. 712 30 010
Repair kit complete	Part No. 712 41 270	Part No. 712 41 270
Pump module complete	Part No. 712 32 230	Part No. 712 32 220

¹⁾ To DIN 28 400 and following numbers

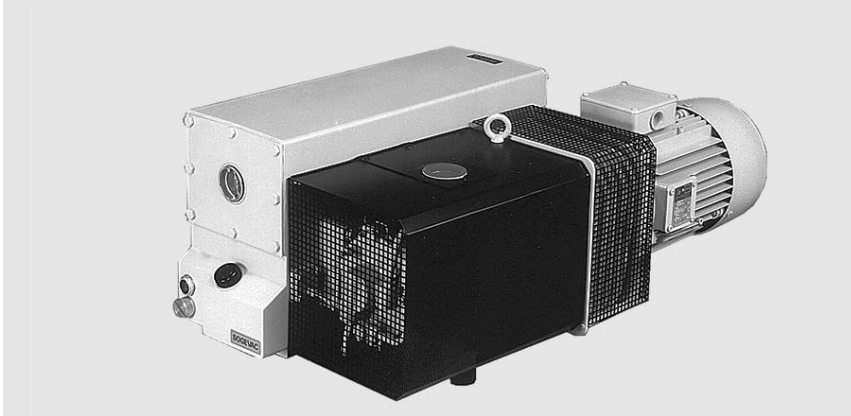
²⁾ Operated at the ultimate pressure without gas ballast, free-field measurement at a distance of 1 m (3.5 ft)

³⁾ European and Japanese pumps have BSP, North and South American versions have NPT

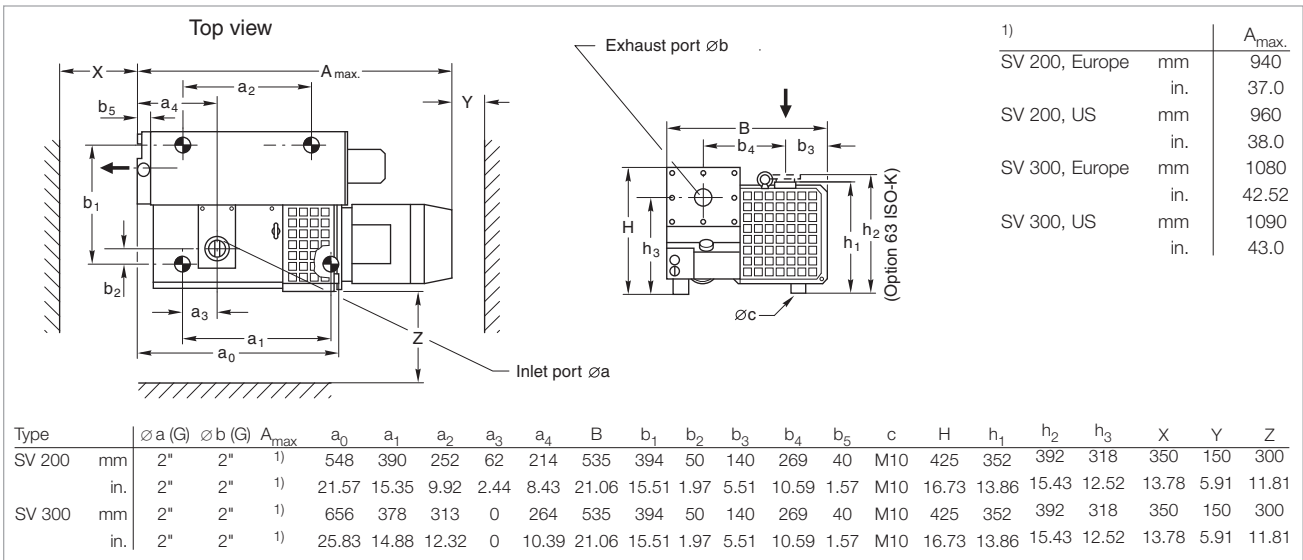
⁴⁾ Please indicate when ordering a pump

⁵⁾ Can be retrofitted

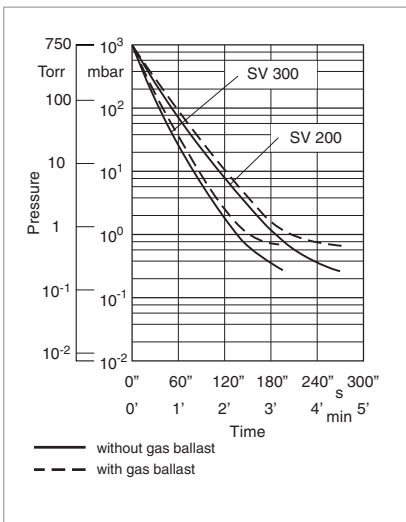
SOGEVAC SV 200 and SV 300



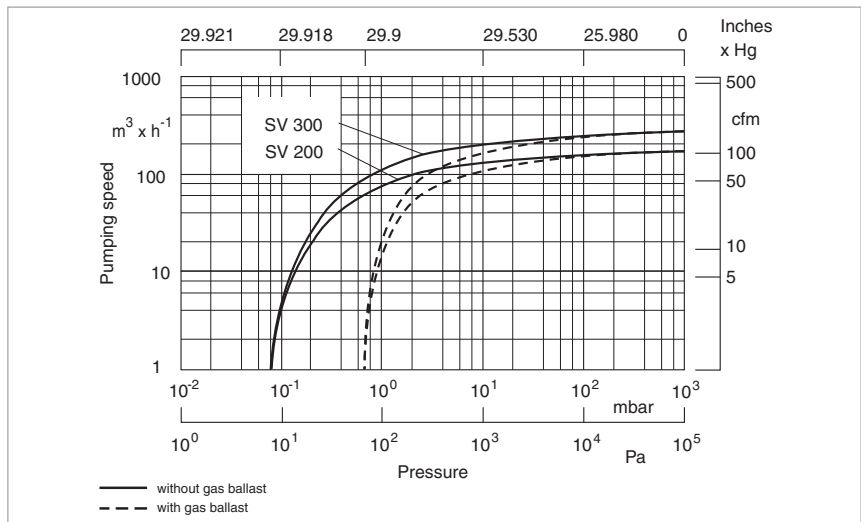
SOGEVAC SV 300



Dimensional drawing for the SOGEVAC SV 200 and SV 300, European version



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



Pumping speed characteristics of the SOGEVAC SV 200 and SV 300 at 50 Hz (60 Hz curves at the end of the section)

Technical Data

		SOGEVAC SV 200		SOGEVAC SV 300	
		50 Hz	60 Hz	50 Hz	60 Hz
Nominal speed ¹⁾	m ³ x h ⁻¹ (cfm)	180 (106.0)	220 (129.5)	280 (164.9)	340 (200.3)
Pumping speed ¹⁾	m ³ x h ⁻¹ (cfm)	170 (100.1)	200 (117.8)	240 (141.4)	290 (170.0)
Ultimate partial 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)
Ultimate total pressure with gas ballast ¹⁾	mbar (Torr)	≤ 0.7 (≤ 0.5)	≤ 0.7 (≤ 0.5)	≤ 0.7 (≤ 0.5)	≤ 0.7 (≤ 0.5)
Water vapor tolerance	with standard gas ballast ¹⁾	30.0 (22.5)	40.0 (30.0)	30.0 (22.5)	40.0 (30.0)
	with big gas ballast ²⁾	50.0 (37.5)	50.0 (37.5)	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)	5.4 (5.7)	7.4 (7.8)
Oil capacity, min. / max.	l (qt)	5.0 (5.3) / 9.0 (9.5)	5.0 (5.3) / 9.0 (9.5)	8.5 (8.9) / 11.5 (12.1)	8.5 (8.9) / 11.5 (12.1)
Noise level ³⁾	dB(A)	69	73	70	74
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)	4.0 (7.5)	4.6 (7.5)	5.5 (10.0)	6.3 (10.0)
Nominal speed	min ⁻¹ (rpm)	1450 (1450)	1750 (1750)	1450 (1450)	1750 (1750)
Type of protection	IP	55	TEFC/55 ⁴⁾	55	TEFC/55 ⁴⁾
Materials (materials in contact with the gas)		Steel, cast iron, Aluminum, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper), Epoxy resin & Glass fibre	Steel, cast iron, Aluminum, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper), Epoxy resin & Glass fibre	Steel, cast iron, Aluminum, Bronze, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper), Epoxy resin & Glass fibre	Steel, cast iron, Aluminum, Bronze FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper), Epoxy resin & Glass fibre
Weight (with oil filling)	kg (lbs)	140 (308.7)	155 (341.8)	180 (396.9)	195 (430.0)
Connections ⁵⁾					
Intake, Thread	G or NPT	2"	2"	2"	2"
Exhaust, Thread	G or NPT	2"	2"	2"	2"

¹⁾ To DIN 28 400 and following numbers

²⁾ Ordering Information see Section "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

SOGEVAC SV 300 50/60 Hz

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)	Part No. 109 26 Part No. 955 26	Part No. 109 30 Part No. 955 36
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)	Part No. 109 27 Part No. 950 27 Part No. 955 27	Part No. 109 31 Part No. 950 31 Part No. 955 37
Other voltages/frequencies ³⁾	upon request	upon request
Filling with special oil ³⁾	upon request	upon request

Accessories

Adaptor for Roots pump ^{3), 4)} RUVAC 501 (BR 2) RUVAC 1001 (BR 2)	Part No. 953 90 Part No. 953 91	Part No. 953 90 Part No. 953 91
Mounting pedestal for fitting to a Roots pump	Part No. 711 19 209	Part No. 711 19 209
Oil level monitor ^{3), 4)}	Part No. 953 96	Part No. 953 96
Thermal switch ^{3), 4)}	Part No. 951 36	Part No. 951 36
Exhaust filter gauge, mechanical ^{3), 4)}	Part No. 951 94	Part No. 951 94
Exhaust filter monitoring switch, electric ³⁾	upon request	upon request
Manual gas ballast ^{3), 4)}	Part No. 951 30	Part No. 951 30
Gas ballast valve, electromagnetic 24 V DC ^{3), 4)}	Part No. 951 31	Part No. 951 31
Two gas ballast valves ³⁾	upon request	upon request
Water cooling with thermostatic valve ³⁾	upon request	upon request

Spare Parts

Oil filter	Part No. 710 18 858	Part No. 710 18 858
Oil filter bypass	Part No. 712 30 570	Part No. 712 30 570
Exhaust filter cartridge (4x required) AFE SV40-SV100 / SV 180/200 AFE SV280/SV 300-SV1200	Part No. 710 64 763 -	- Part No. 710 64 773
Vanes (set of 3 pieces)	Part No. 714 12 000	Part No. 714 12 010
Set of gaskets NBR (standard)	Part No. 971 97 552	Part No. 971 97 652
Set of gaskets FPM (FKM)	Part No. 714 36 730	Part No. 714 36 740
Repair kit complete	Part No. 714 36 190	Part No. 714 36 200
Pump module complete	Part No. 714 36 770	Part No. 714 36 780

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

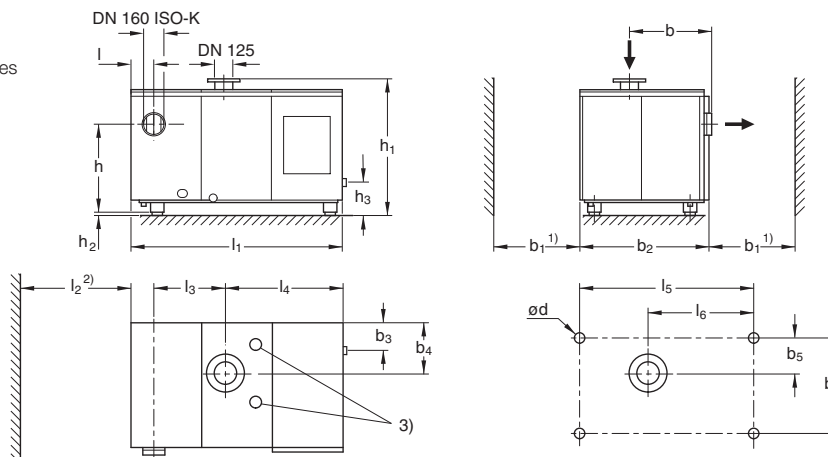
Note: Further pump options upon request (for example, water cooled pumps)

SOGEVAC SV 1200



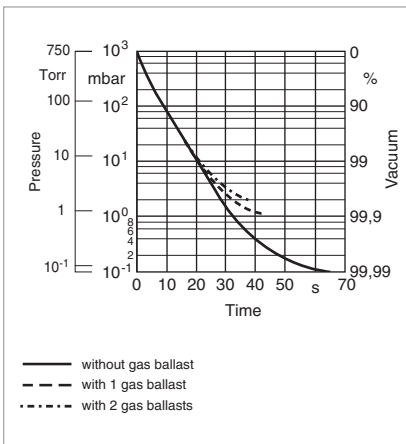
SOGEVAC SV 1200

- 1) Clearance for cooling air flow
- 2) Clearance for filter exchange
- 3) Access to the gas ballast valves

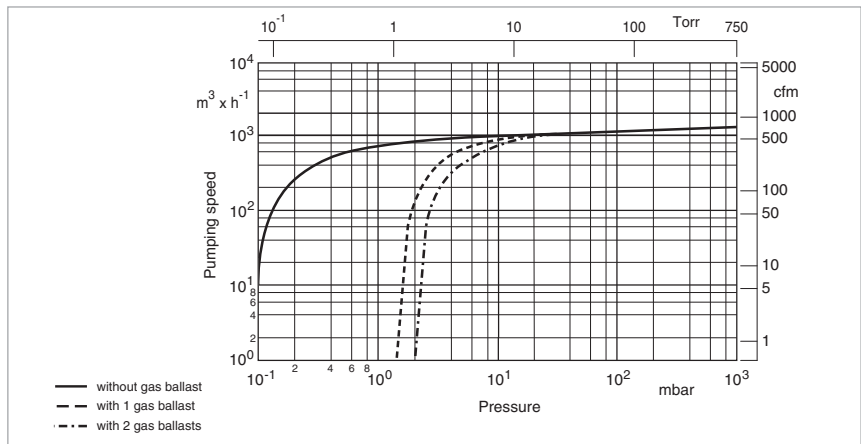


Type	b	b ₁	b ₂	b ₃	b ₄	b ₅	b ₆	ø d	h	h ₁	h ₂	h ₃	l	l ₁	l ₂ , min.	l ₃	l ₄	l ₅	l ₆	
SV 1200	mm	635	1000	1021	65	386	268	740	18	660	1050	40	240	188	1640	500	547	914	1345	824
	in.	25.00	39.37	40.20	2.56	15.20	10.55	29.13	0.71	25.98	41.34	1.57	9.45	7.40	64.57	19.69	21.54	35.98	52.95	32.44

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 partial 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)	1370 (3021)	1370 (3021)
Dimensions (L x W x H)	mm (in.)	1640 x 1050 x 1021 (64.57 x 41.34 x 40.20)	1640 x 1050 x 1021 (64.57 x 41.34 x 40.20)
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

SOGEVAC SV 1200 with three-phase motor, integrated gas ballast valves, air-cooled and over-temperature switch 400 V, 50 Hz (CEI) ¹⁾	Part No. 109 70
208 - 230/460 V, 60 Hz (NEMA)	Part No. 950 70
Other voltages/frequencies ²⁾	upon request
Filling with special oil ²⁾	upon request
Accessories	
Water cooling with thermostatic valve ³⁾	upon request
Adaptor for Roots pump ^{2), 4)} RUVAC 2001 RUVAC 3001	Part No. 953 37 Part No. 953 38
Oil level monitor ^{2), 4)}	Part No. 953 99
Exhaust filter monitoring switch electric ²⁾	Part No. 712 22 360
Spare Parts	
Oil filter	Part No. 712 14 598
Oil filter bypass	Part No. 712 36 390
Exhaust filter cartridge (14x required) AFE SV280/SV 300-SV1200	Part No. 710 64 773
Vanes (set of 3 pieces)	Part No. 712 14 310
Set of gaskets NBR (standard)	Part No. 971 96 681
Set of gaskets FPM (FKM)	Part No. 712 36 060
Repair kit complete (50 Hz)	Part No. 712 34 800
Pump module complete (50 Hz)	Part No. 712 34 820

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

²⁾ Please indicate when ordering a pump

³⁾ With 2 gas ballasts

⁴⁾ Can be retrofitted

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

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.

Thereafter the pumps are emptied and delivered without PFPE lubricant.

All pumps are also equipped with temperature and oil level switches compatible with oxygen operation.

The pumps are supplied with special Operating Instructions, Spare Parts List and include a CE declaration. This special information must be observed. Due to the use of PFPE lubricant and grease, also the maintenance schedule has been changed accordingly.

Only special accessories (filters, valves, cocks) and original spare parts from Oerlikon Leybold Vacuum 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, SV 300 B, SV 630 B, SV 750 B and SV 1200.

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

The pump-specific part number, formerly variant 16 or V2016 is now being replaced by a new ending XXXXXXPF:

For example, the SV 65 B now has the part number 960401PF.

Advantages to the User

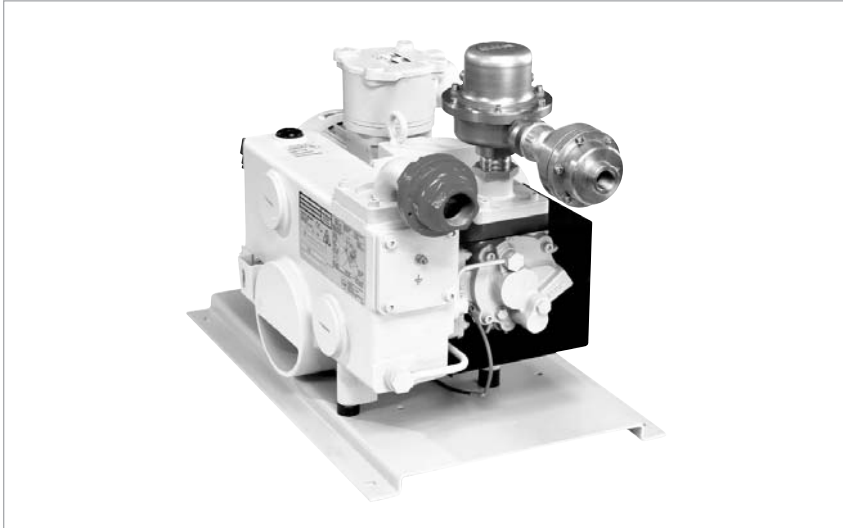
- High pumping speed down to ultimate pressure
- Operation of the pump at all pressures between 1000 mbar (750 Torr) and ultimate pressure is possible, also with 100% O₂
- Integrated and effective separation of oil mist
- Compact design
- Air or water cooled
- Environment friendly (low noise and low heat radiation, low vibrations)
- Available in many different variants, motor voltages, ports etc.

Pump

	Part No.	Ultimate pressure (mbar (Torr))	
		without gas ballast	with gas ballast
SV 16	upon request	1.0 (0.75)	1.5 (1.13)
SV 25	upon request	1.0 (0.75)	1.5 (1.13)
SV 65 B	960401PF ¹⁾	1.0 (0.75)	2.5 (1.88)
SV 100 B	960505PF ¹⁾	1.0 (0.75)	2.5 (1.88)
SV 200	upon request	0.5 (0.375)	1.5 (1.13)
SV 300	10931PF ¹⁾	0.5 (0.38)	1.5 (1.13)
SV 630 B	upon request	1.0 (0.75)	1.5 (1.13)
SV 630 BF	upon request	1.0 (0.75)	1.5 (1.13)
SV 750 B	upon request	1.0 (0.75)	1.5 (1.13)
SV 750 BF	upon request	1.0 (0.75)	1.5 (1.13)
SV 1200	10970PF	1.0 (0.75)	4 (3)

¹⁾ several variants are available

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 SV40 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.

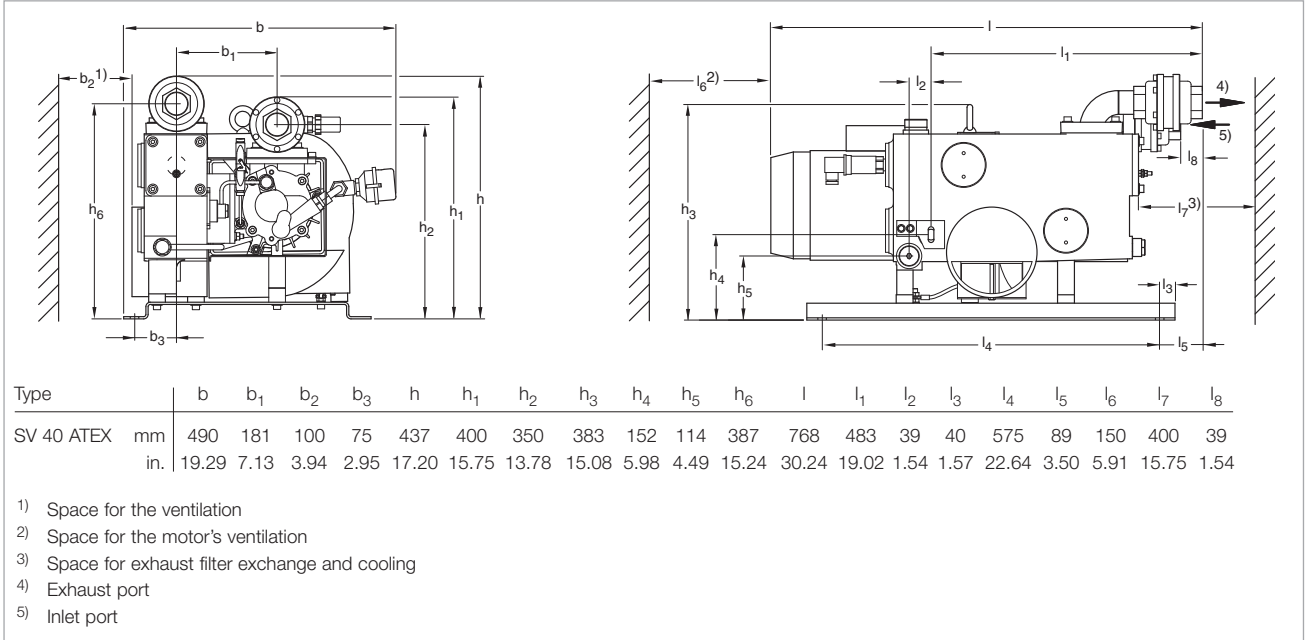
Safety Characteristics

- 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.

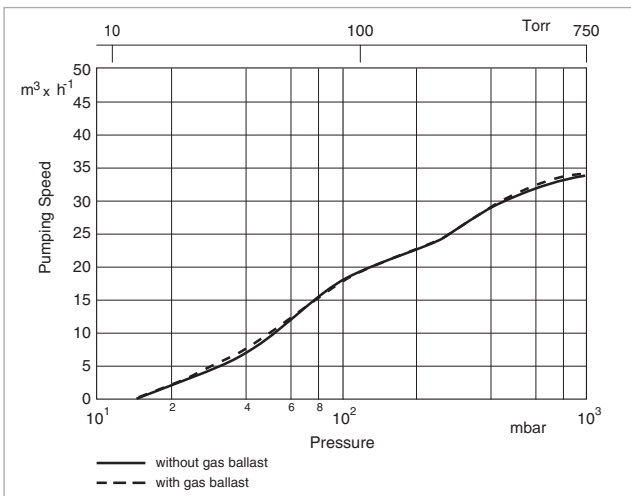
Furthermore, these pumps have an explosion-proof design.

Advantages to the User

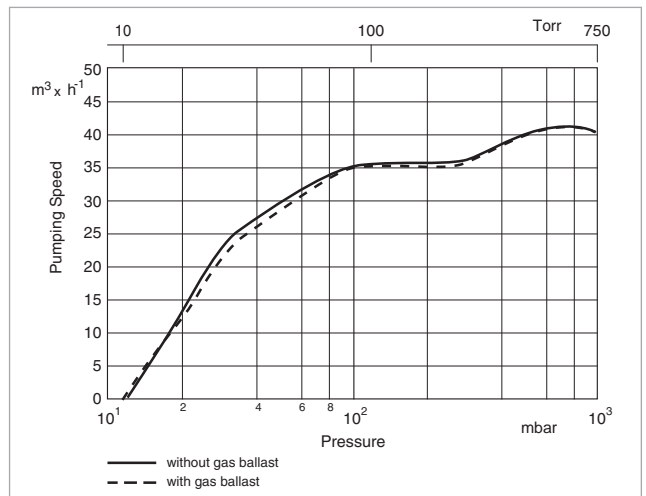
- High pumping speed down to ultimate pressure
- High vapor pumping capability
- Running possible at any pressure, from 1000 mbar (750 Torr) to ultimate pressure
- Integrated and efficient oil mist separation
- Compact design
- Air cooled
- Environment-friendliness (low noise level, no cooling water, 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 and H₂ (60 Hz curves at the end of the section)



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 section)

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 PNEUROF)			
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 partial pressure without gas ballast			
IIB + H ₂	mbar (Torr)	0.8 (0.6)	0.8 (0.6)
IIA	mbar (Torr)	15.0 (11.0)	15.0 (11.0)
Ultimate total pressure with gas ballast			
IIB + H ₂	mbar (Torr)	1.5 (1.1)	1.5 (1.1)
IIA	mbar (Torr)	15.0 (11.0)	15.0 (11.0)
Noise level (according to DIN 45 635)	dB(A)	63	68
Water vapor tolerable load with gas ballast	kg x h ⁻¹ (qt/hr)	0.30 (0.32)	0.30 (0.32)
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		GS 555 (IIB + H ₂) or GS 495 (IIA)	GS 555 (IIB + H ₂) or GS 495 (IIA)
Oil capacity, approx.	l (qt)	2 (2.1)	2 (2.1)
Materials (materials in contact with the gas)		Steel, cast iron, Aluminum, Bronze, FPM (FKM), Glass, Polyamid 6.6, Filter material (Polymers, Paper), epoxy resin & glass fibre	Steel, cast iron, Aluminum, 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

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	Part No. 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	-	Part No. 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	Part No. 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	-	Part No. 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	Part No. 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	Part No. 960 344	Part No. 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	Part No. 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 in the Internet under "www.oerlikon.com/leyboldvacuum" 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 below table.

Safety Precautions

As standard, the pumps are equipped with FPM (FKM) seals, oil filter bypass and oil GS 555. 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 PT 100 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, SV 300 B, SV 630 B and SV 750 B

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

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

Only special accessories (filters, valves, cocks) and original spare parts from Oerlikon Leybold Vacuum 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.

Pump

	Part No.	Ultimate pressure (mbar (Torr))	
		without gas ballast	with gas ballast
SV 40 B air cooled Ex II (i) 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 (i) 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 (i) 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 (i) 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 (i) 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 (i) 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 air cooled Ex II (i) 2G b IIB + H2 T3 / (o) 2G IIC T3 (10 °C < T _a > 40 °C) X	10931A22	0.15 (1.13)	0.7 (0.53)
SV 300 water cooled Ex II (i) 2G b IIB + H2 T3 / (o) 2G IIC T3 (10 °C < T _a > 40 °C) X	1093102A22	0.15 (1.13)	0.7 (0.53)
SV 630 B air cooled Ex II (i) 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 (i) 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 (i) 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 (i) 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 available 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 in the Internet under "www.oerlikon.com/leyboldvacuum" under Download Documents in the area Documentation.

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 below table.

Safety Precautions

As standard, the pumps are equipped with FPM (FKM) seals, oil filter bypass and oil GS 555. 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 Pt 100 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, SV 300 B, SV 630 B and SV 750 B.

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

Only special accessories (filters, valves, cocks) and original spare parts from Oerlikon Leybold Vacuum 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

Pump

	Part No.	Ultimate pressure (mbar (Torr))	
		without gas ballast	with gas ballast
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 air cooled Ex II (j) 3 G IIC T3 / (o) 3 GD IIC T3 (150 °C)(10 < T _a < 40 °C) X	10931A33	0.15 (1.13)	0.7 (0.53)
SV 300 water cooled Ex II (j) 3 G IIC T3 / (o) 3 GD IIC T3 (150 °C)(10 < T _a < 40 °C) X	1093102A33	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)

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 in the Internet under "www.oerlikon.com/leyboldvacuum" under Download Documents in the area Documentation.

Accessories

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

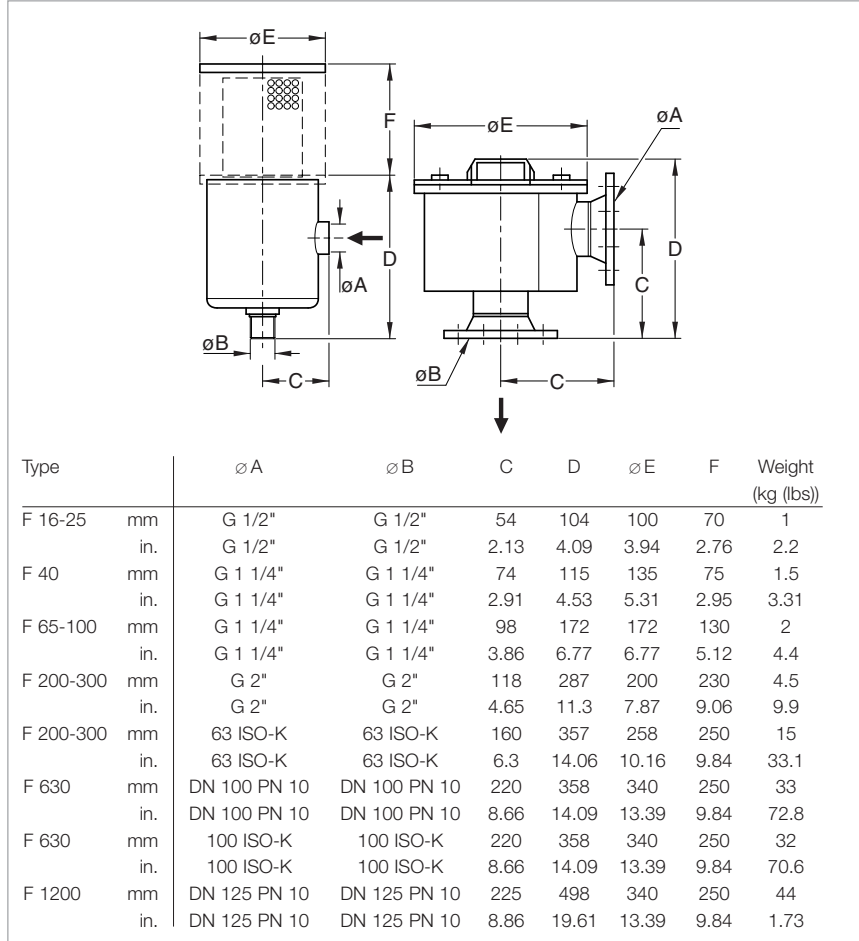
- Same housing for different cartridges
- High separation capacity
- Quickly exchangeable cartridge

Paper Filter Cartridge (Standard)

- Separates particles down to 1 μm (Dry process: dust, powders, chips etc.)

Polyester Filter Cartridge

- Separation of particles down to 1 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, food stuffs)

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 1 µm particles	98%	98%	–	–

Ordering Information

Dust Filter

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")	Part No. 951 50	Part No. 711 27 094	Part No. 711 27 093	Part No. 711 27 092
Spare cartridge for F 16-25	Part No. 710 40 762	Part No. 712 61 288	Part No. 710 65 813	Part No. 710 65 713
F 40 for SV 40 B (G 1 1/4")	Part No. 951 55	Part No. 711 27 104	Part No. 711 27 103	Part No. 711 27 102
Spare cartridge for F 40	Part No. 710 46 118	Part No. 712 61 298	Part No. 710 49 083	Part No. 710 49 103
F 65-100 for SV 65 B, SV 100 B (G 1 1/4")	Part No. 951 60	Part No. 711 27 114	Part No. 711 27 113	Part No. 711 27 112
Spare cartridge for F 65-100	Part No. 712 13 283	Part No. 712 61 308	Part No. 712 13 324	Part No. 712 13 304
F 200-300 for SV 200, SV 300, SV 300 B (G 2")	Part No. 951 65	Part No. 711 27 124	Part No. 711 27 123	Part No. 711 27 122
F 200-300 for SV 200, SV 300, SV 300 B (DN 63 ISO-K)	Part No. 951 68	Part No. 711 27 127	Part No. 711 27 126	Part No. 711 27 125
Spare cartridge for F 200-300 (G 2" or DN 63 ISO-K)	Part No. 712 13 293	Part No. 712 61 318	Part No. 712 13 334	Part No. 712 13 314
F 630 for SV 630 (B/F), SV 750 (B/F) (DN 100 PN 10)	Part No. 951 71	Part No. 711 27 164	Part No. 711 27 163	Part No. 711 27 162
F 630 for SV 630 (B/F), SV 750 (B/F) (DN 100 ISO-K)	Part No. 951 72	Part No. 711 27 168	Part No. 711 27 167	Part No. 711 27 166
Spare cartridge for F 630 (DN 100 PN 10 or DN 100 ISO-K)	Part No. 710 35 242	Part No. 712 61 508	Part No. 710 37 734	Part No. 710 37 724
F 1200 for SV 1200 (DN 125 PN 10)	Part No. 951 75	Part No. 711 27 144	Part No. 711 27 143	Part No. 711 27 142
Spare cartridge for F 1200 (2x required)	Part No. 710 35 242	Part No. 712 61 508	Part No. 710 37 734	Part No. 710 37 724
Spare Parts				
Set of gaskets for F 16-25	NBR (Buna N)	Part No. 714 10 820	Part No. 714 10 820	Part No. 714 10 820
Set of gaskets for F 40	NBR (Buna N)	Part No. 714 10 830	Part No. 714 10 830	Part No. 714 10 830
Set of gaskets for F 65-100	NBR (Buna N)	Part No. 714 10 840	Part No. 714 10 840	Part No. 714 10 840
Set of gaskets for F 200-300	NBR (Buna N)	Part No. 714 10 850	Part No. 714 10 850	Part No. 714 10 850
O-ring gasket for F 630 / F 1200	NBR (Buna N)	Part No. 712 41 032	Part No. 712 41 032	Part No. 712 41 032

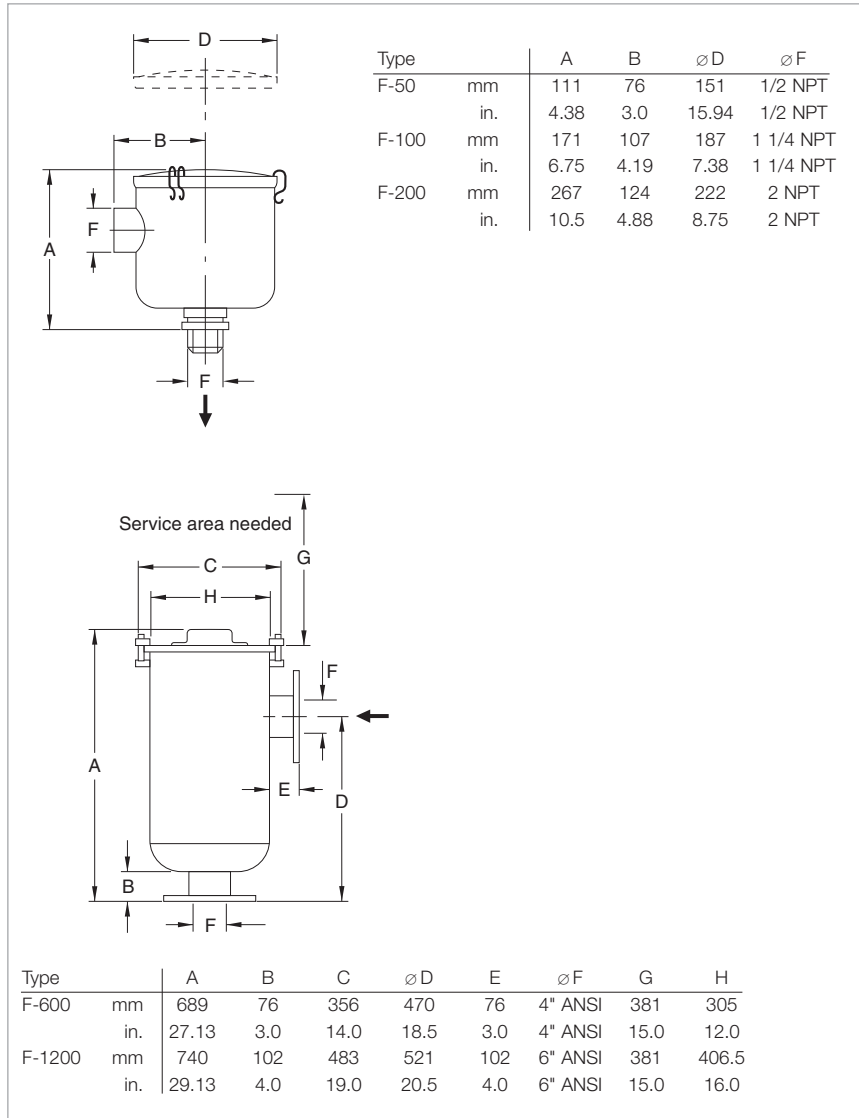
Only available for purchase in North and South America

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

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

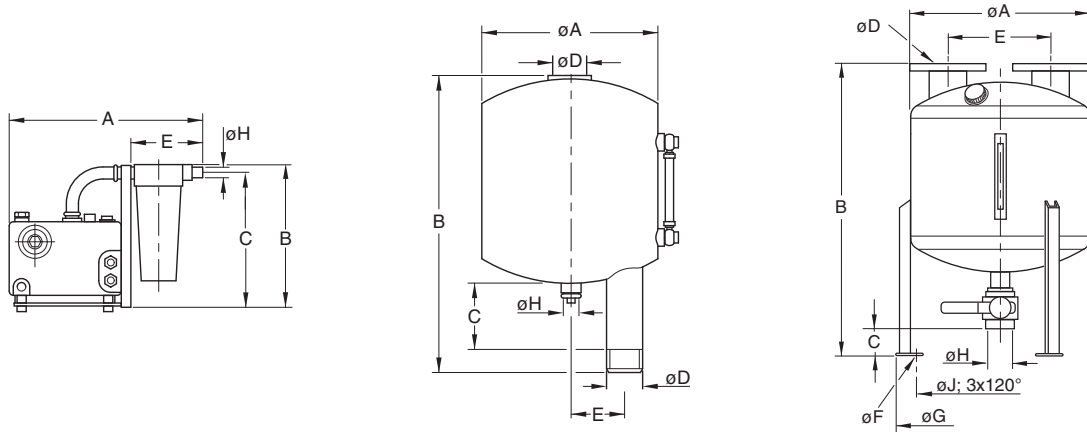
Liquid traps SL 630 and SL 1200 are equipped with a cleaning port DN 150 PN 10.

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.



Type		A	øA	B	C	øD	E	øF	øG	øJ	øH
SL 16-25	mm	465	-	347	327	-	202	-	-	-	25
	in.	18.31	-	13.66	12.87	-	7.95	-	-	-	0.98
SL 40	mm	-	200	350	100	G 1 1/4"	60	-	-	-	G 1/2"
	in.	-	7.87	13.78	3.94	G 1 1/4"	2.36	-	-	-	G 1/2"
SL 65-100	mm	-	300	510	150	G 1 1/4"	170	12	400	360	G 1/2"
	in.	-	11.81	20.08	5.91	G 1 1/4"	6.69	0.47	15.75	14.17	G 1/2"
SL 200-300	mm	-	300	865	150	G 2"	170	12	400	360	G 1/2"
	in.	-	11.81	34.06	5.91	G 2"	6.69	0.47	15.75	14.17	G 1/2"
SL 630	mm	-	550	900	210	DN100 PN10	300	9	600	514	G 1 1/4"
	in.	-	21.65	35.43	8.27	DN100 PN10	11.81	0.35	23.62	20.24	G 1 1/4"
SL 1200	mm	-	550	900	133	DN125 PN10	300	9	600	514	G 1 1/4"
	in.	-	21.65	35.43	5.24	DN125 PN10	11.81	0.35	23.62	20.24	G 1 1/4"

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 SV	for pumps from 10 to 25 m ³ /h	40 B	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
Liquid trap		Part No. 951 38	Part No. 951 40	Part No. 951 42
Drain valve		-	Part No. 711 30 111	Part No. 711 30 113

Technical Data

		SL 200-300	Liquid Traps SL 630	SL 1200
For pump	SOGEVAC SV	200/300 (B)	500/630/750 (B)(F)	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
Liquid trap		Part No. 951 44	Part No. 951 47	Part No. 951 48
Drain valve		Part No. 711 30 113	Part No. 711 30 105	Part No. 711 30 105
Double spigot for drain valve		-	Part No. 711 18 033	Part No. 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 SV	for pumps from 10 to 25 m ³ /h	40 B	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
Liquid trap		Part No. 951 38 (BSP)	Part No. 951 40 (NPT) and 2x Part No. 710 35 073	Part No. 951 43 (NPT)
Drain valve		-	Part No. 711 30 111	Part No. 711 30 113

Technical Data

		SL 200-300	Liquid Traps SL 630	SL 1200
For pump	SOGEVAC SV	200/300 (B)	500/630/750 (B)(F)	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
Liquid trap		Part No. 951 45 (NPT)	Part No. 951 47 (BSP)	Part No. 951 48 (BSP)
Drain valve		Part No. 711 30 113	Part No. 711 30 105	Part No. 711 30 105
Double spigot for drain valve		-	Part No. 711 18 033	Part No. 711 18 033

SEP Separators and SEPC Condensers



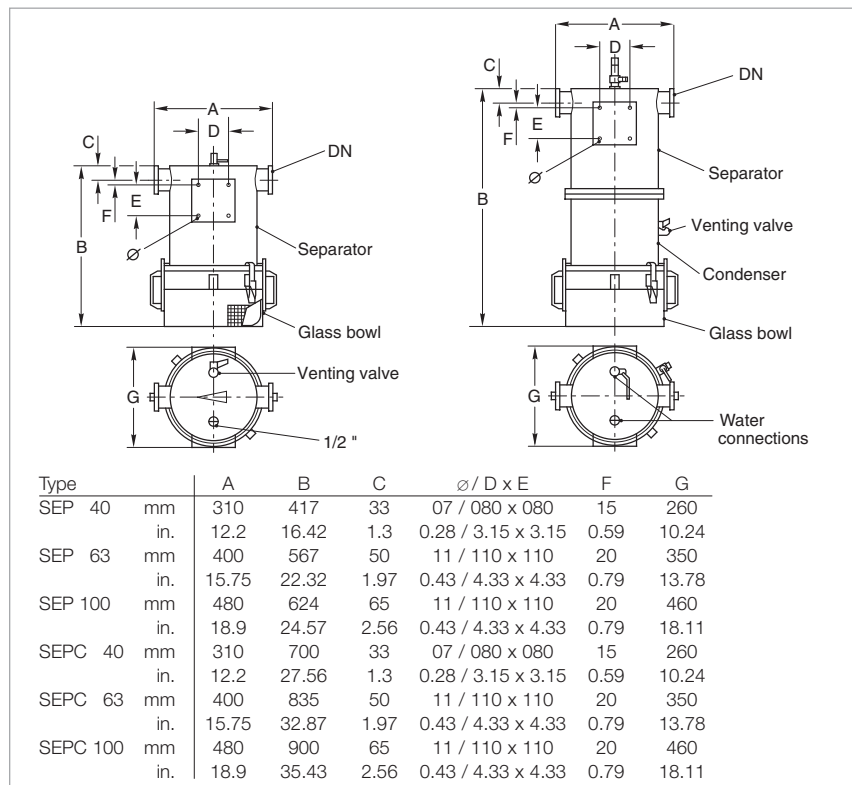
The separators from the SEP and the condensers from the SEPC range have been designed to be integrated in the vacuum circuit. They are employed in all those cases where the pumped gases may contain liquid drops (SEP), condensable vapors (SEPC) or solid particles which may impair proper operation of the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

		SEP 40	Separator SEP 63	SEP 100
For pump	SOGEVAC	SV 40 B/65 B/100 B	SV 200/300	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

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

Technical Data

		SEPC 40	Condenser SEPC 63	SEPC 100
For pump	SOGEVAC	SV 40 B/65 B/100 B	SV 200/300	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

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

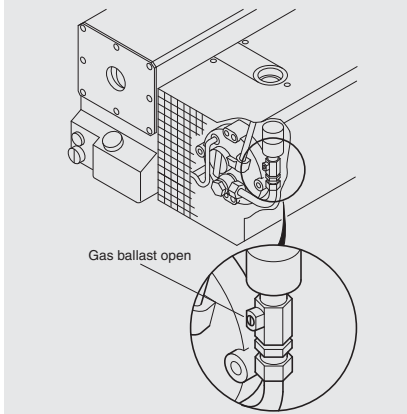
¹⁾ For water vapor at a vapor pressure of 60 mbar (45 Torr)

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 Product Section C01 "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.

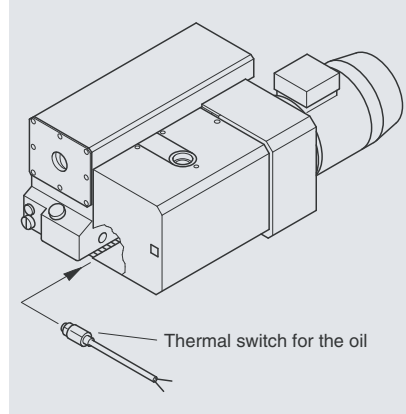
The gas ballast valve may also easily be retrofitted to the SV 40, SV 65, SV 100, SV 200 and SV 300 (either standard, large or solenoid).

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

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	Part No. 971 462 640	2)
Thermal switch		–	2)	2)	upon request	Part No. 971 432 820 ³⁾
Oil level monitor		Part No. 711 19 108	2)	2)	upon request	Part No. 711 19 110
Gas ballast big		–	2)	2) 5)	–	4)
Gas ballast, with EM 24 V DC valve		–	–	–	upon request	upon request
Exhaust filter monitoring switch		–	–	–	–	Part No. 971 425 890

Ordering Information

Accessories

For pump	SOGEVAC	SV 40 BI	SV 65 B	SV 100 B	SV 200 ^{3), 8)}	SV 300 ^{3), 8)}
Gas ballast valve (standard)		1)	1)	1)	Part No. 951 29	Part No. 951 29
Thermal switch		Part No. 971 432 820 ³⁾	Part No. 971 432 830 ³⁾	Part No. 971 432 830 ³⁾	Part No. 951 36	Part No. 951 36
Oil level monitor		Part No. 711 19 110	Part No. 711 19 110	Part No. 711 19 110	Part No. 953 96	Part No. 953 96
Gas ballast big		–	6)	7)	Part No. 951 30	Part No. 951 30
Gas ballast, with EM 24 V DC valve		upon request	upon request	upon request	Part No. 951 31	Part No. 951 31
Exhaust filter monitoring switch		Part No. 971 425 890	Part No. 971 425 890	Part No. 971 425 890	Part No. 712 22 360	Part No. 712 22 360

Ordering Information

Accessories

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)		Part No. 971 464 130 ⁶⁾	integrated (24 V DC)	integrated (manual)
Thermal switch		Part No. 971 463 930	integrated	integrated
Oil level monitor		upon request	Part No. 971 425 760	Part No. 953 99
Gas ballast kit		Part No. 971 464 130 ⁹⁾	–	–
Gas ballast, with EM 24 V DC valve		upon request	Part No. 971 438 170	upon request ³⁾
Exhaust filter monitoring switch		upon request	Part No. 712 22 360	Part No. 712 22 360

1) According to variant

2) Can not be retrofitted

3) Please state when ordering the pump

4) See pump with Part No. 960 305 V 2040

5) See pump with Part No. 960 251 V 2040

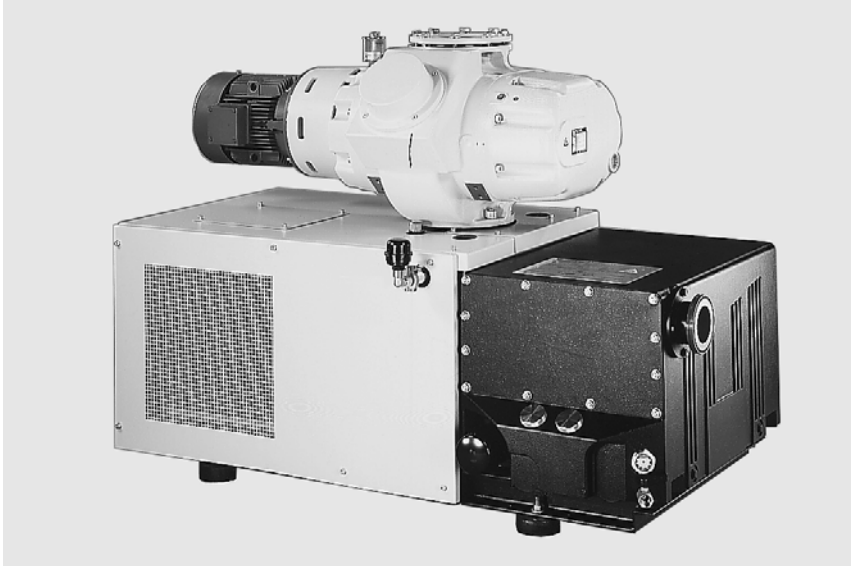
6) See pump with Part No. 960 405 V 0040

7) See pump with Part No. 960 505 V 2040

8) Second gas ballast possible. Contact Oerlikon Leybold Vacuum

9) SV 300 B gas ballast kit (Part No. 971 464 130) includes all parts for small, standard und big gas flow

Mounting Accessories



SOGEVAC SV 630 F with RUVAC WAU 2001



SOGEVAC SV 300 with RUVAC WAU 501

Ordering Information

Mounting Accessories

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

Ordering Information

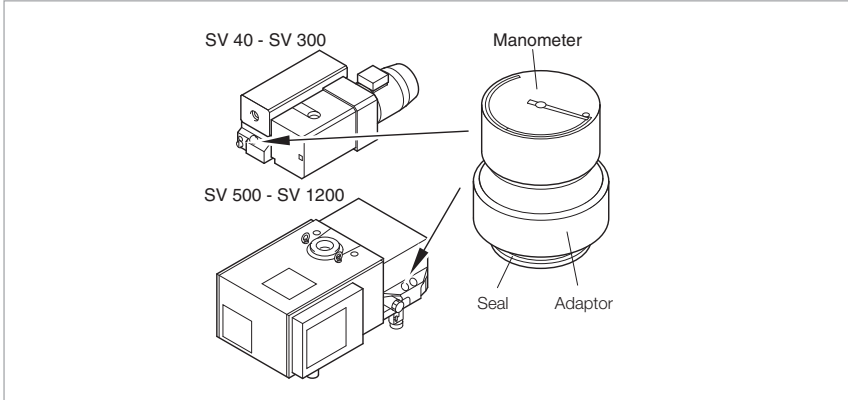
Mounting Accessories

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

¹⁾ Mandatory for direct Roots mounting

²⁾ Required for mounting the WAU 1001 on to the SV 200/300

Exhaust Filter Gauge



The manometer (40 mm ((1.58 in.)) dia.), glued in the adaptor, 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

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)		Part No. 951 93	Part No. 951 94	Part No. 951 95

¹⁾ Not visible from outside

Ball Valves and Valves



Ball valve 1 1/4"

Advantages to the User

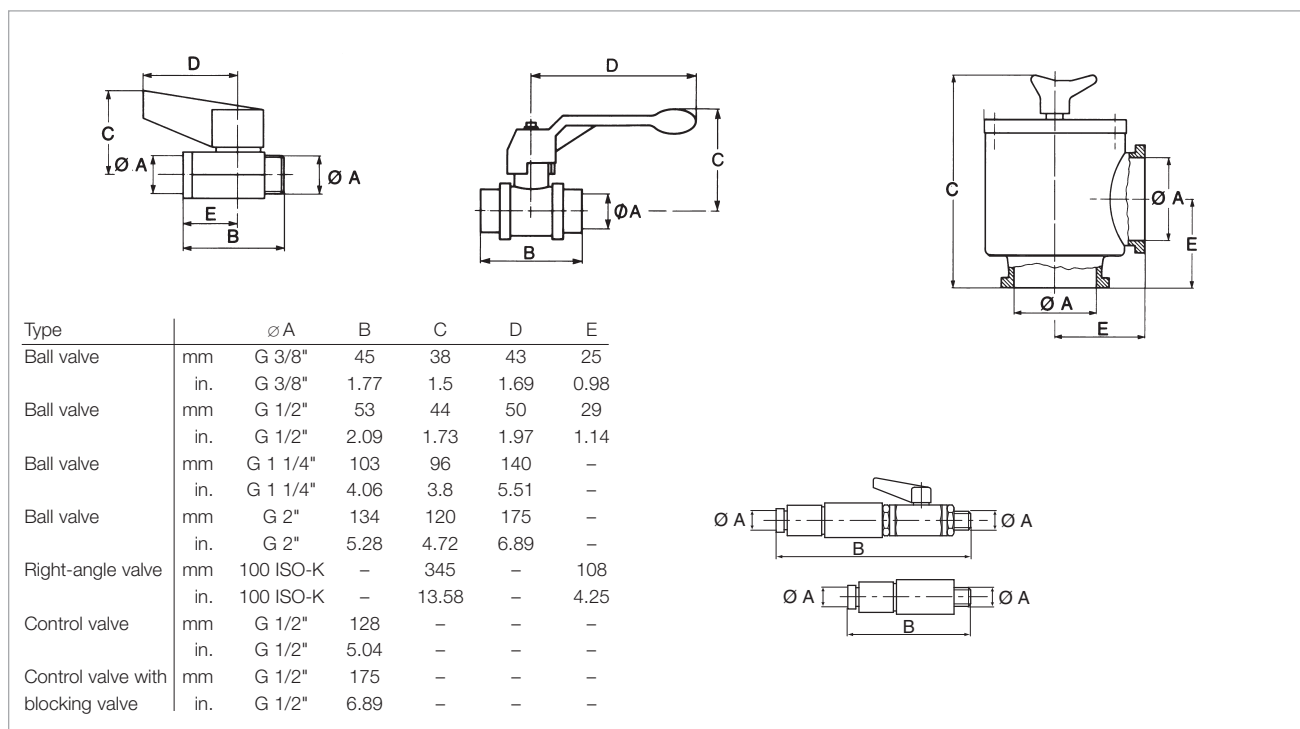
- Leak rate $< 1 \times 10^{-6}$ mbar x l x s⁻¹
($\leq 0.75 \times 10^{-6}$ Torr x l x s⁻¹)
- Seals on both sides against the atmosphere
- Opens against atmospheric pressure
- Small size
- Simple and quick to operate
- Pressure range from 10^{-2} to 1000 mbar (0.75×10^{-2} to 750 Torr)
- Smaller models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

Information on the blocking components is provided in the Product Section C14 "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⁾

Type	Ball valve	Ball valve	Ball valve
	Part No. 711 30 111	Part No. 711 30 113	Part No. 711 30 105

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)

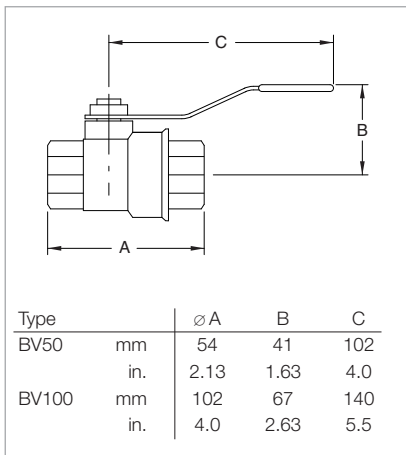
Ordering Information

Ball Valves and Valves ¹⁾

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

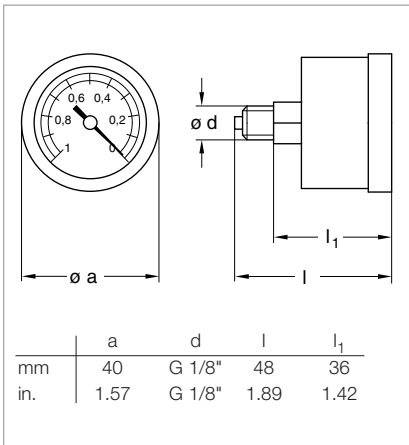
Type	Ball valve	Ball valve
Connection	1/2-inch NPT(F)	1 1/4-inch NPT(F)

Ordering Information

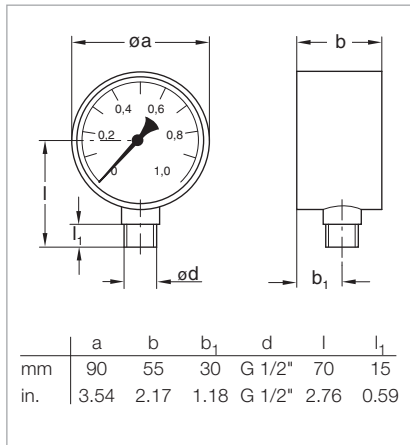
Ball Valves

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

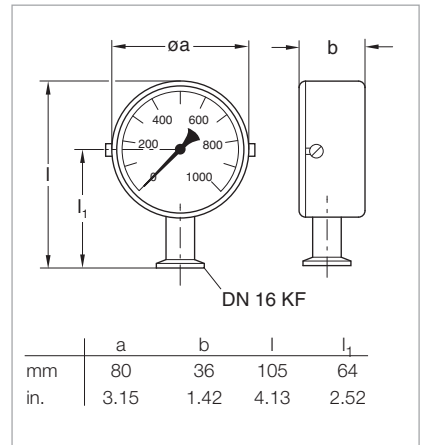
Bourdon Vacuum Gauges / DIAVAC DV 1000



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



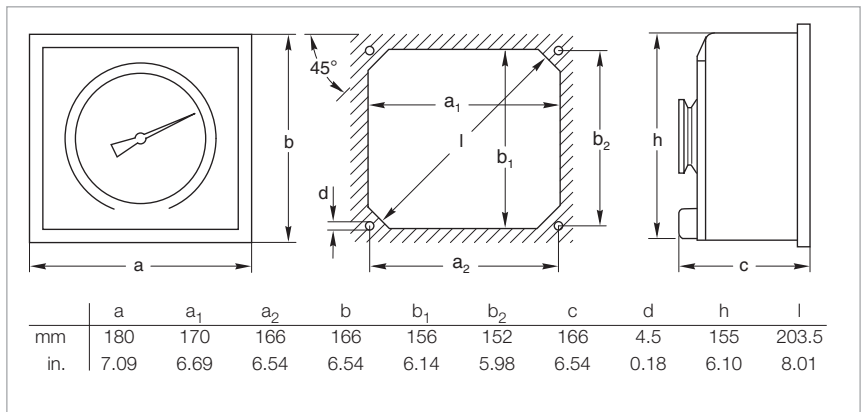
Dimensional drawing for the Bourdon vacuum gauge Part No. 951 92



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
- Readings independent of atmospheric pressure
- Clear dial which can also be read from a great distance

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

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

Standard vacuum gauge for all SOGEVAC pumps is Part No. 951 92.

Further information on other vacuum gauges is provided in Product Section C16 "Total Pressure Gauges"

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

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

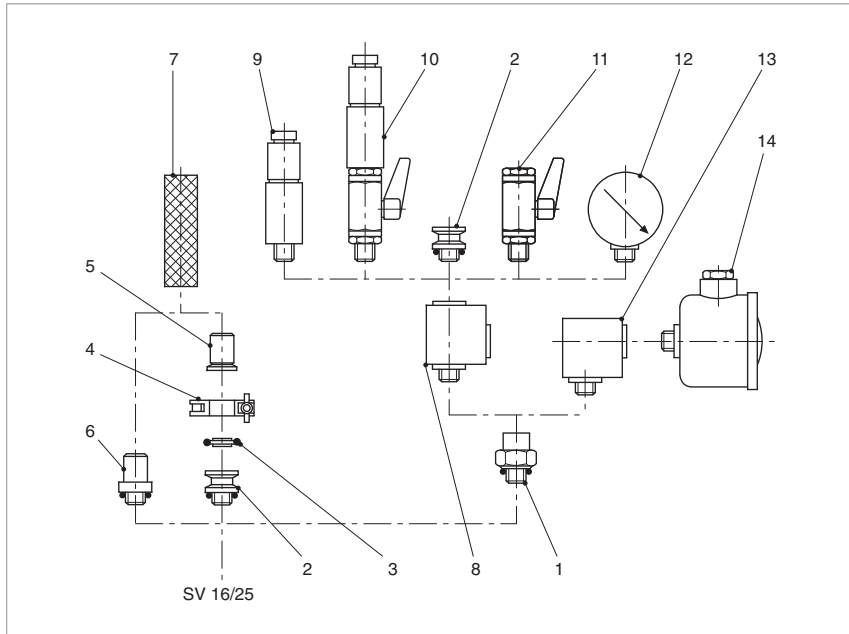
External Carbon Exhaust Filters

Ordering Information

External Carbon Exhaust Filters

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

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



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 Oerlikon Leybold Vacuum 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 Product Section C13 "Vacuum Fittings and Feedthroughs".

Technical Data

Connection Fittings

Item	Description	Connection	Material
1	Screw coupling	G 1/2" M/F	Aluminum
2	Threaded flange adaptor ¹⁾	G 1/2" M – DN 16 ISO-KF	Aluminum, anodized
3	Centering ring ¹⁾	DN 16 ISO-KF	Aluminum
4	Clamping ring	DN 10/16 ISO-KF	Aluminum
5	Hose connection	DN 16 ISO-KF – DN 25 mm (0.39 in.)	Aluminum, anodized
6	Hose connection ¹⁾	G 1/2" M – DN 25 mm (0.39 in.)	Aluminum, 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	Aluminum, anodized
9	Vacuum control valve	G 1/2" M	Brass/Aluminum
10	Vacuum control valve with blocking valve	G 1/2" M	Brass, nicked/Aluminum
11	Ball valve	G 1/2" M/F	Brass, nicked
12	Bourdon vacuum gauge	G 1/2" M	
13	Elbow 90°	G 1/2" M/F	Aluminum, 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

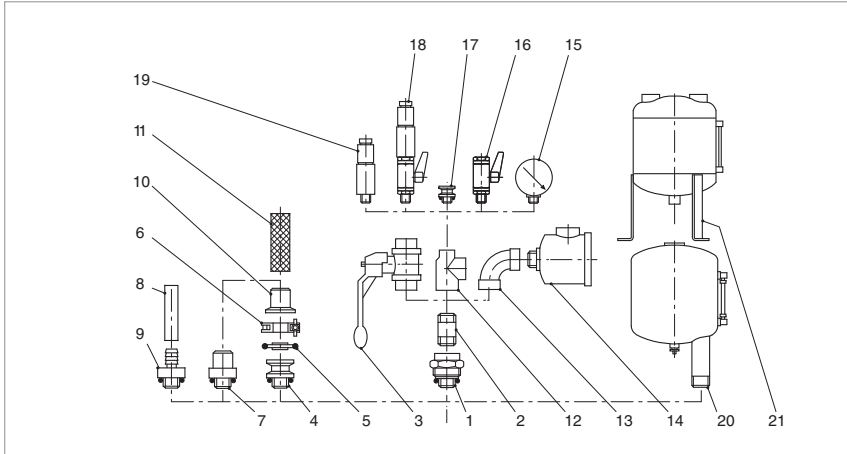
Item	Description	SV 10 B			SV 16 B, SV 16			SV 25 B, SV 25		
		Part No.	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.	
1	Screw coupling	711 18 020	711 18 020	711 18 020	711 18 020	711 18 020	711 18 020	711 18 020	711 18 020	
2	Screw coupling ¹⁾	711 18 120	711 18 120	711 18 120	711 18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

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 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	Aluminum, 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	Aluminum, anodized
5	Centering ring	DN 40 ISO-KF	Aluminum
6	Clamping ring	DN 32/40 ISO-KF	Aluminum
7	Hose connection ¹⁾	G 1 1/4" M / DN 40 mm (1.58 in.)	Aluminum, 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	Aluminum, anodized
10	Hose connection	DN 40 ISO-KF/DN 40 mm (1.58 in.)	Aluminum, 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	Aluminum, anodized
18	Vacuum control valve with blocking valve	M 1/2" BSP	Brass, nickeled/Aluminum
19	Vacuum control valve	M 1/2" BSP	Brass, nickeled/Aluminum
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

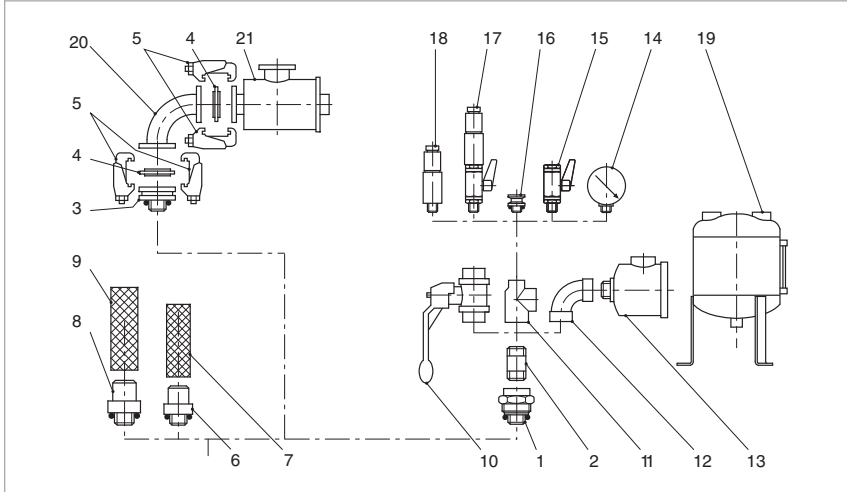
Item	Description	SV 40 B	SV 65 B	SV 100 B
		Part No.	Part No.	Part No.
1	Screw coupling ¹⁾	Part No. 711 18 023	Part No. 711 18 023	Part No. 711 18 023
2	Double nipple	Part No. 711 18 033	Part No. 711 18 033	Part No. 711 18 033
3	Ball valve	Part No. 711 30 105	Part No. 711 30 105	Part No. 711 30 105
4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

SV 200

SV 300 (B)

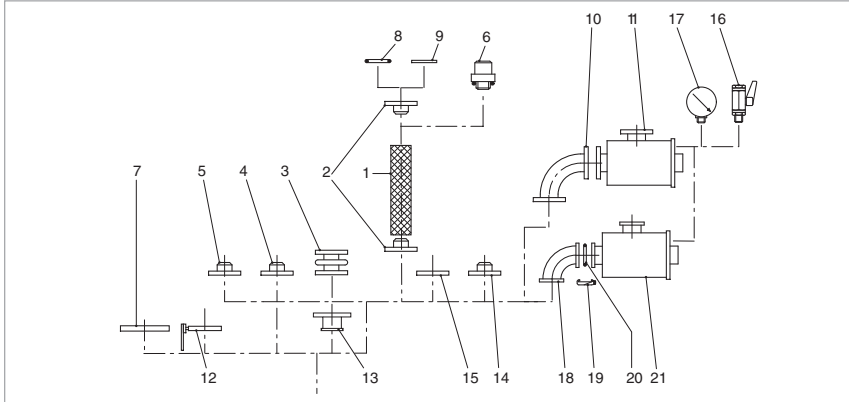
Item	Description		
1	Screw coupling ¹⁾	Part No. 711 18 025	Part No. 711 18 025
2	Double nipple	Part No. 711 18 035	Part No. 711 18 035
3	Threaded flange adaptor ¹⁾	Part No. 711 18 126	Part No. 711 18 126
4	Centering ring with outer ring ¹⁾	Part No. 268 05	Part No. 268 05
5	Set of clamping screws DN ISO-K (4 pieces)	Part No. 267 01	Part No. 267 01
6	Hose connection ¹⁾	Part No. 711 18 015	Part No. 711 18 015
7	PVC tubing	Part No. 711 18 325	Part No. 711 18 325
8	Hose connection ¹⁾	Part No. 711 18 016	Part No. 711 18 016
9	PVC tubing	Part No. 711 18 326	Part No. 711 18 326
10	Ball valve	Part No. 711 30 107	Part No. 711 30 107
11	Tee reducer	Part No. 711 18 265	Part No. 711 18 265
12	Elbow 90°	Part No. 711 18 215	Part No. 711 18 215
13	Dust filter ²⁾ with paper cartridge with activated charcoal cartridge with metal cartridge with polyester filter cartridge	Part No. 951 65 Part No. 711 27 122 Part No. 711 27 123 Part No. 711 27 124	Part No. 951 65 Part No. 711 27 122 Part No. 711 27 123 Part No. 711 27 124
14	Bourdon vacuum gauge	Part No. 951 92	Part No. 951 92
15	Ball valve	Part No. 711 30 113	Part No. 711 30 113
16	Threaded ISO-KF small-flange adaptor ¹⁾	Part No. 711 18 120	Part No. 711 18 120
17	Vacuum control valve with blocking valve	Part No. 951 87	Part No. 951 87
18	Vacuum control valve	Part No. 951 86	Part No. 951 86
19	Liquid trap	Part No. 951 44	Part No. 951 44
20	Elbow 90°	Part No. 887 25	Part No. 887 25
21	Dust filter with paper cartridge	Part No. 951 68	Part No. 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 500 B(F), SV 630 B(F), SV 750 B(F)



Connection fittings for SOGEVAC SV 500 B(F), 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/Aluminum/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	Roots adaptor Roots adaptor	RUVAC 1001 RUVAC 2001	Steel/NBR 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	Aluminum/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	Aluminum
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/Aluminum
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 ¹⁾	DN 100 ISO-K	Aluminum/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

¹⁾ incl. O-ring

M = Outside thread

F = Inside thread

Ordering Information

Connection Fittings

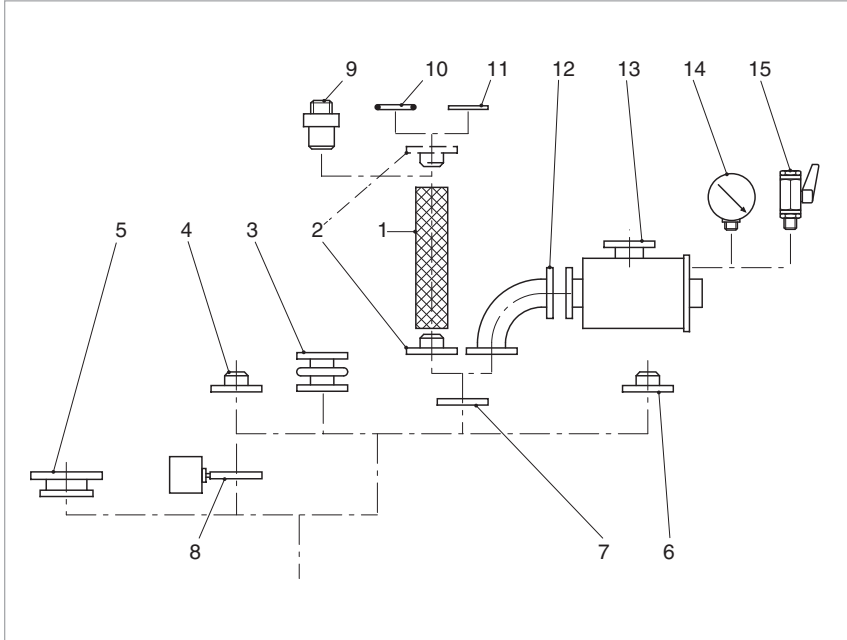
Item	Description	Connection Fittings		
		SV 500 B(F)	SV 630 B(F)	SV 750 B(F)
1	PVC tubing	Part No. 711 18 329	Part No. 711 18 329	Part No. 711 18 329
2	Hose connection	Part No. 711 18 362	Part No. 711 18 362	Part No. 711 18 362
3	Coupling	Part No. 711 18 342	Part No. 711 18 342	Part No. 711 18 342
4	Adaptor flange	Part No. 711 18 372	Part No. 711 18 372	Part No. 711 18 372
5	Adaptor flange	Part No. 711 18 370	Part No. 711 18 370	Part No. 711 18 370
6	Hose connection	Part No. 711 18 017	Part No. 711 18 017	Part No. 711 18 017
7	Roots adaptor Roots adaptor	Part No. 953 47 Part No. 953 48	Part No. 953 47 Part No. 953 48	Part No. 953 47 Part No. 953 48
8	O-ring	Part No. 712 42 882	Part No. 712 42 882	Part No. 712 42 882
9	Centerring ring with O-ring	Part No. 711 18 391	Part No. 711 18 391	Part No. 711 18 391
10	Elbow 90°	Part No. 711 18 284	Part No. 711 18 284	Part No. 711 18 284
11	Dust filter F 630 ¹⁾ with paper cartridge with activated charcoal cartridge with metal cartridge with polyester filter cartridge	Part No. 951 71 Part No. 711 27 162 Part No. 711 27 163 Part No. 711 27 164	Part No. 951 71 Part No. 711 27 162 Part No. 711 27 163 Part No. 711 27 164	Part No. 951 71 Part No. 711 27 162 Part No. 711 27 163 Part No. 711 27 164
12	Manually operated blocking valve	Part No. 711 30 116	Part No. 711 30 116	Part No. 711 30 116
13	Adaptor	Part No. 711 18 336	Part No. 711 18 336	Part No. 711 18 336
14	Adaptor flange with tubulation	Part No. 711 18 351	Part No. 711 18 351	Part No. 711 18 351
15	Collar flange	Part No. 711 18 383	Part No. 711 18 383	Part No. 711 18 383
16	Ball valve	Part No. 711 30 113	Part No. 711 30 113	Part No. 711 30 113
17	Bourdon vacuum gauge	Part No. 951 92	Part No. 951 92	Part No. 951 92
18	Elbow 90°	Part No. 887 26	Part No. 887 26	Part No. 887 26
19	Clamp screws for DN ISO-K Set = 4 pieces	Part No. 267 01	Part No. 267 01	Part No. 267 01
20	Centering ring ²⁾	Part No. 268 06	Part No. 268 06	Part No. 268 06
21	Dust filter ¹⁾ with paper cartridge with activated charcoal cartridge with metal cartridge	Part No. 951 72 Part No. 711 27 166 Part No. 711 27 167	Part No. 951 72 Part No. 711 27 166 Part No. 711 27 167	Part No. 951 72 Part No. 711 27 166 Part No. 711 27 167
	Screw set (not drawn) Set = 8 screws and 8 nuts	Part No. 714 12 440	Part No. 714 12 440	Part No. 714 12 440

Special versions for oxygen applications are available upon request

¹⁾ See "Dust Filters F (Suction Side)" for other options

²⁾ 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/Aluminum/Rubber
4	Flange with tubulation ¹⁾	DN 125 (tube 139.7 (5.5 in.))	Steel
5	Roots adaptor	RUVAC 2001	Steel
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	Aluminum
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, nicked/Aluminum

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

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

Special versions for oxygen applications are available upon request

¹⁾ incl. O-ring

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

Central Vacuum Supply Systems



Pictures of various central vacuum supply systems (the right of technical changes is reserved)

Central vacuum supply systems are frequently used in those cases where a large number of minor requirements for vacuum need to be economically covered. Moreover, the systems serve the purpose of compensating for large variations in the number of vacuum consumers and increase the availability of the vacuum service.

A typical central vacuum supply system from Oerlikon Leybold Vacuum consists chiefly of one or more SOGEVAC rotary vane vacuum pumps, a buffer vessel, an electrical cabinet with controller as well as the corresponding connection components. The systems are supplied by us fully assembled, tested as plug and play units.

Technical Data and Ordering Information

Designation	Vessel volumen (l)	Nominal pumping speed (m ³ x h ⁻¹)	Connection (G or NPT)	Electrical power rating ¹⁾ (kW)	Type of controller	Part No.
CVS60 1 x 25	60	25	1 1/4"	0.8	BASIC	501 792
CVS60 1 x 40	60	40	1 1/4"	1.1	BASIC	501 793
CVS60 1 x 65	60	65	1 1/4"	1.5	BASIC	501 796
CVS150 1 x 40	150	40	1 1/4"	1.1	BASIC	501 800
CVS150 1 x 65	150	65	1 1/4"	1.5	BASIC	501 803
CVS300 1 x 40	300	40	2"	1.1	BASIC	501 820
CVS300 1 x 65	300	65	2"	1.5	BASIC	501 823
CVS300 1 x 100	300	100	2"	2.5	BASIC	501 826
CVS300 2 x 65	300	130	2"	3.0	FF	501 832
CVS300 2 x 100	300	200	2"	5.0	FF	501 835
CVS500 1 x 100	500	100	2"	2.5	BASIC	501 846
CVS500 1 x 200	500	200	2"	4.0	FF	501 849
CVS500 1 x 300	500	300	2"	5.5	FF	501 852
CVS500 2 x 40	500	80	2"	2.2	FF	501 855
CVS500 2 x 65	500	130	2"	3.0	FF	501 858
CVS500 2 x 100	500	200	2"	5.0	FF	501 861
CVS500 2 x 200	500	360	2"	8.0	FF	501 864
CVS1000 2 x 100	1000	200	2"	5.0	FF	501 879
CVS1000 2 x 200	1000	360	2"	8.0	FF	501 882
CVS1000 2 x 300	1000	560	2"	11.0	FF	501 885

¹⁾ At a mains voltage of 400 V / 50 Hz, 3 ph.

Beyond the equipment which is supplied as standard (see list), the modular design of the central vacuum supply systems from Oerlikon Leybold Vacuum allows for customisation according to your specific requirements.

Optionally available are, for example:

- Higher pumping speeds and larger buffer volumes
- Electropneumatic or solenoid blocking valves
- Mobile construction on castors
- Other mains voltages
- Additional pumps, filters, fittings etc.

Controller Types for the Central Vacuum Supply Systems from Oerlikon Leybold Vacuum

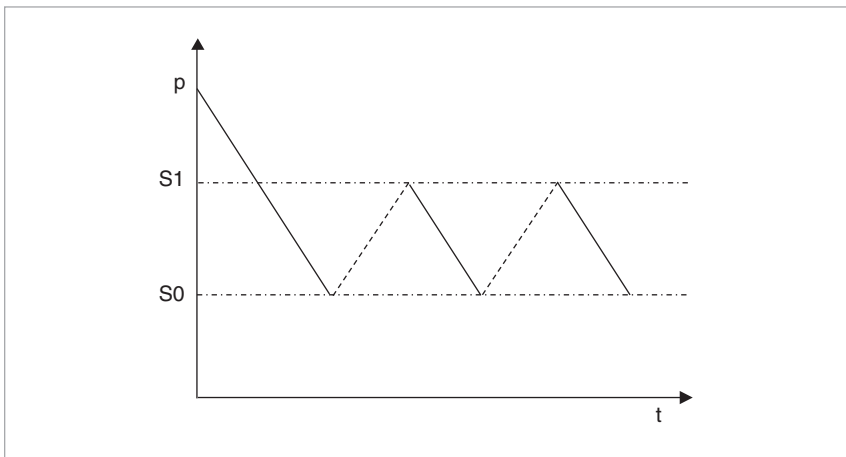
Generally a difference is made between the controller types **BASIC** and **FF** (Full Featured). Differing custom solutions are available upon request.

BASIC Controller

The Basic controller provides for two freely selectable switching thresholds, through which an individual vacuum pump or alternatively a blocking valve (optional) can be driven.

Moreover, the controller includes an electronic pressure display and an operating hours counter.

This type of controller is suited for systems equipped with a single pump up to a nominal pumping speed of 100 m³/h (58.9 cfm).



Basic control with one pump

Operating Principle of the BASIC Controller

Starting at atmospheric pressure, the central vacuum supply system is evacuated down to the intended “lower operating pressure” S0. As soon as the pressure has attained the level of S0, the vacuum pump is switched off automatically, respectively the optional blocking valve is closed.

When switching on the consumers, the pressure in the system rises again until the “upper operating pressure” is reached thereby tripping the switch-on threshold S1 of the pump, respectively attaining the opening pressure of the valve.

Provided pumping speed of the pump and vacuum consumption are balanced, the operating pressure will change between S0 and S1. At reduced consumption, the system pressure will reduce until the switching threshold S0 is reached again causing the pump to switch off, respectively the valve to close etc.

FF Controller

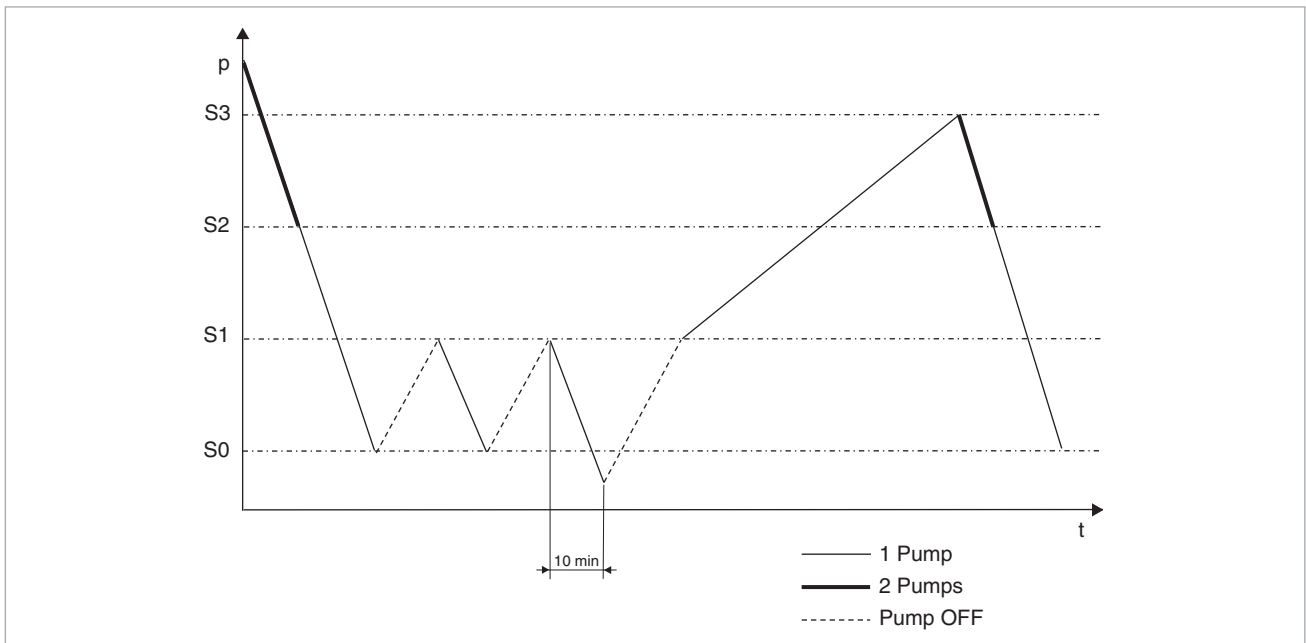
Basically the FF controller provides for four freely selectable switching thresholds and has thus been designed to operate two pumps running in parallel. Depending on the design rating and current demand, the base load or master pump will operate alone or jointly together with the spare pump.

In order to spread the number of operating hours equally between the pumps, master pump and spare pump are interchanged in regular intervals. In case a pump fails, the controller effects an automatic change to the spare pump.

For operating vacuum pumps having a nominal pumping speed of over

100 m³/h (58.9 cfm), a delayed shut-down facility has been integrated which will restrict the number of switching cycles to 6 per hour.

Through the use of a Programmable Logic Controller (PLC), the FF controller permits flexible coverage of quite differing requirements.



FF controller with two pumps and an example for delayed shutdown (pumps over 100 m³/h (58.9 cfm))

Operating Principle of the FF Controller

Just as for the Basic controller, the system is, upon switching on, evacuated down to the lower operating pressure S0. This is effected with both pumps running in parallel (master pump and spare pump) until the shut-down threshold for the spare pump S2 is reached. Thereafter, the master pump alone will ensure that the lower operating pressure is reached and is then also switched off. When the system pressure increases due to the number of consumers or leaks to the level of S1, then the master pump will be switched on automatically etc.

In the case of vacuum pumps having a pumping speed of over 100 m³/h (58.9 cfm) and a running time of the pump of less than 10 minutes, then the standard switch off delay can be responsible for the pressure to drop below S0. This will prevent too frequent switching on and off of the pumps.

If for process reasons the pressure is not allowed to drop below the lower operating pressure, we recommend the use of electropneumatic or solenoid blocking valves.

If the current vacuum demand cannot be met by the master pump alone, the system pressure will increase to the upper switching pressure S3 upon which the spare pump is automatically started.

With both pumps running in parallel, the system is then again evacuated until the switch off threshold S2 for the spare pump is reached again etc.

Only available for purchase in North and South America

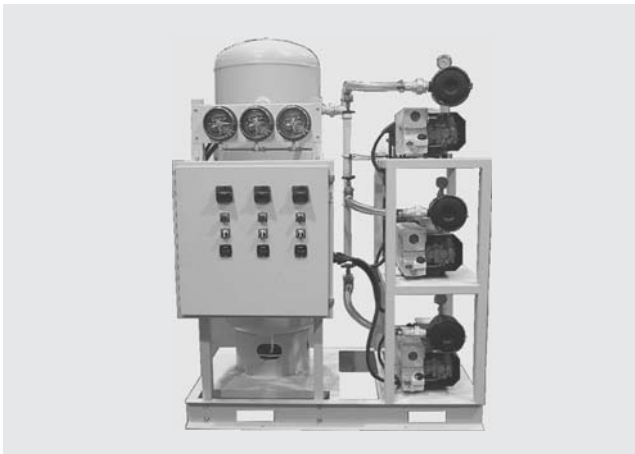
Central Vacuum Supply Systems



Central vacuum supply system, simplex



Central vacuum supply system, duplex



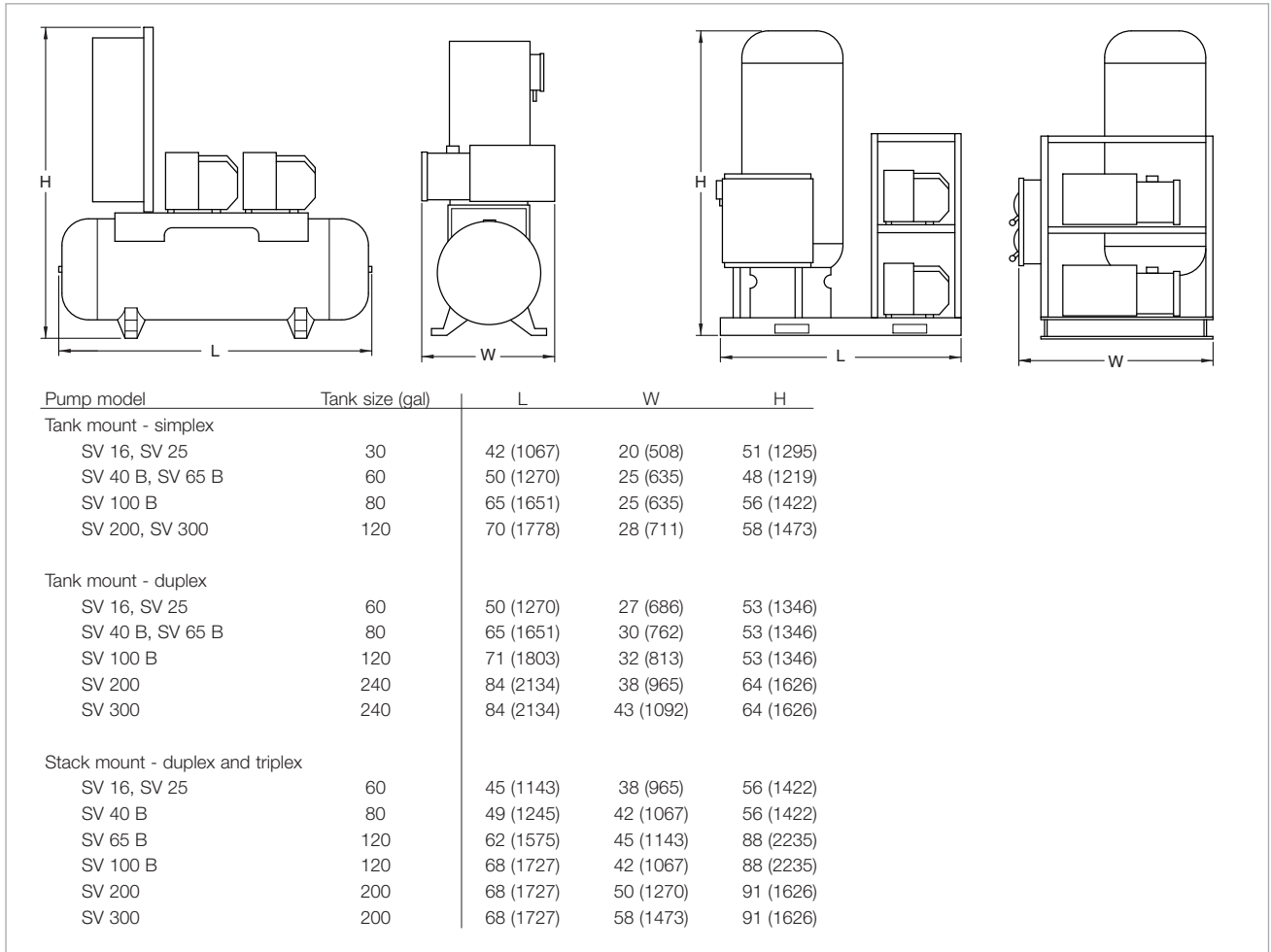
Central vacuum system, triplex

Standard Equipment

- ASME® rated receiver tank
- Flexible configurations for one, two, or three SOGEVAC pumps
- Manual isolation valves
- Simple operation, high reliability, easy maintenance
- Complete package with gauges and NEMA12 controls
- Standard “ON/OFF/AUTO” switch
- Elapsed time meters
- Inlet particulate filters
- Lead/Lag or continuous operation of pumps
- Adjustable pressure switch for control of vacuum level
- Air cooled SOGEVAC pumps with built-in “anti-suckback” valves

Options

- Tank or stack mounted pumps
- Larger receiver tank
- Special inlet filters
- Automatic isolation valves
- Special design controls per customer specification



Central vacuum supply systems, tank mounted [left] and stack mounted [right]; dimensions in inch, dimensions in brackets () are in mm

Technical Data

Performance Characteristics

		SV 16	SV 25	SV 40 B	SV 65 B	SV 100 B	SV 200	SV 300
Free air displacement	cfm (m ³ x h ⁻¹)	11 (18.6)	17.0 (29.0)	31.2 (53.0)	41.8 (71.0)	68.9 (117.0)	129.5 (219.8)	200.3 (340.0)
Actual pumping speed	cfm (m ³ x h ⁻¹)	10 (16.9)	15 (25.5)	27.7 (47.0)	37.7 (64.0)	61.8 (105.0)	117.8 (200.0)	170.8 (289.9)
Guaranteed base pressure	Torr	0.4	0.4	0.4	0.4	0.4	0.06	0.06
Base pressure with gas ballast	Torr	1.1	1.1	1.1	1.1	1.0	0.5	0.5
Water vapor tolerance	Torr	30.0	30.0	22.5	22.5	22.5	30.0	30.0
Water vapor pumping with gas ballast	qt/hr	0.32	0.48	0.95	1.32	1.8	5.7	7.8
Noise level at 3 feet with 1 pump running without gas ballast	dB(A)	56	56	63	64	64	73	74
Motor	hp	1.0	1.5	2.0	2.5	4.0	7.5	10.0
Pump rotational speed	rpm	1750	1500	1750	1750	1750	1750	1750
Oil capacity	qt	2.0	2.0	1.05	2.1	2.1	5.5	9.0
Inlet / exhaust - NPT	in.	1/2 / 1/2	1/2 / 1/2	1-1/4 / 1-1/4	1-1/4 / 1-1/4	1-1/4 / 1-1/4	2 / 2	2 / 2
Pump weight	lbs	50.7	52.9	99.3	114.8	194.3	341.8	430.0

Technical Data

Tank Mount

Tank Mount

Stack Mount

Simplex

Duplex

Duplex and Simplex

System	Tank size (gal)	Simplex	Duplex	Duplex and Simplex
SV 16, SV 25	Tank size (gal)	30	60	60
SV 40 B	Tank size (gal)	60	80	80
SV 65 B	Tank size (gal)	60	120	120
SV 100 B	Tank size (gal)	80	120	120
SV 200	Tank size (gal)	120	240	200
SV 300	Tank size (gal)	120	240	200

Ordering Information

Part No.

C

-

XX

System

- Simplex
- Duplex
- Triplex

Pumps

- SV 16 (1 hp)
- SV 25 (1.5 hp)
- SV 40 B (2.5 hp)
- SV 65 B (3 hp)
- SV 100 B (4 hp)
- SV 200 (7.5 hp)
- SV 300 (10 hp)

Mounting

- Tank mount
- Stack mount

Voltage

- 460/3/60
- 230/3/60
- 230/1/60 (available for SV 16/SV 25 only)
- 208/3/60 (available for SV 25 only)
- 115/1/60 (available for SV 16 only)

Duty

- Continuous
- Demant Start/Stop

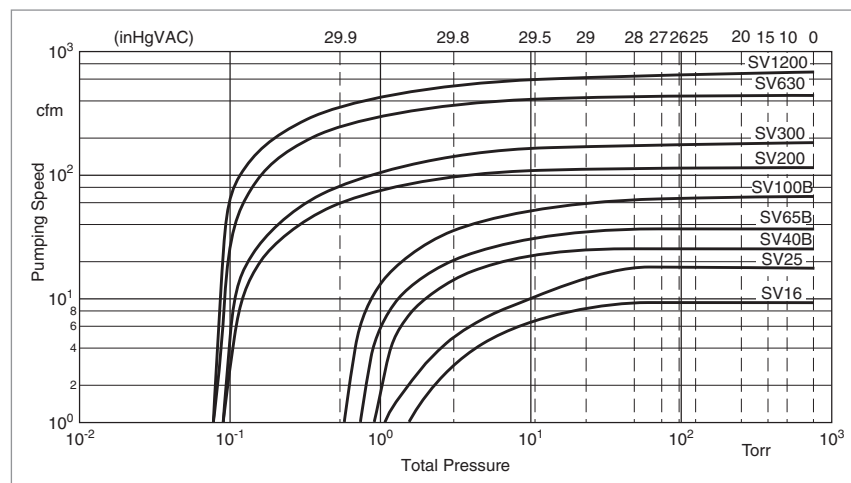
S
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B
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C
D



Pumping speed characteristics for the central vacuum supply systems at 60 Hz

Only available for purchase in North and South America

Tank Mounted Medical Vacuum Systems

NFPA 99C compliant and designed for use in medical applications - hospitals, out-patient surgical and other medical facilities



Tank mounted medical vacuum system

Oerlikon Leybold Vacuum tank mounted systems are completely assembled with interconnecting piping, are factory tested and leak-checked prior to shipment.

Some items may be disassembled for protection during shipment.

Required mechanical re-assembly requirements will be clearly noted, as well as needed electrical connections, and are the responsibility of the installer.

System Features

Key features for these duplex systems include two SOGEVAC series oil-sealed rotary vane vacuum pumps with displacements up to 69 cfm each, an ultimate vacuum of better than 29.95" Hg, and automatic oil recirculation system with integral coalescing exhaust demisters as standard. ASME rated receiver tanks, NEMA 12 / UL listed electrical enclosure and interconnecting hardware. Each turn-key system is fully assembled and tested at Oerlikon Leybold Vacuum's factory and includes an operation manual and 12 month warranty.

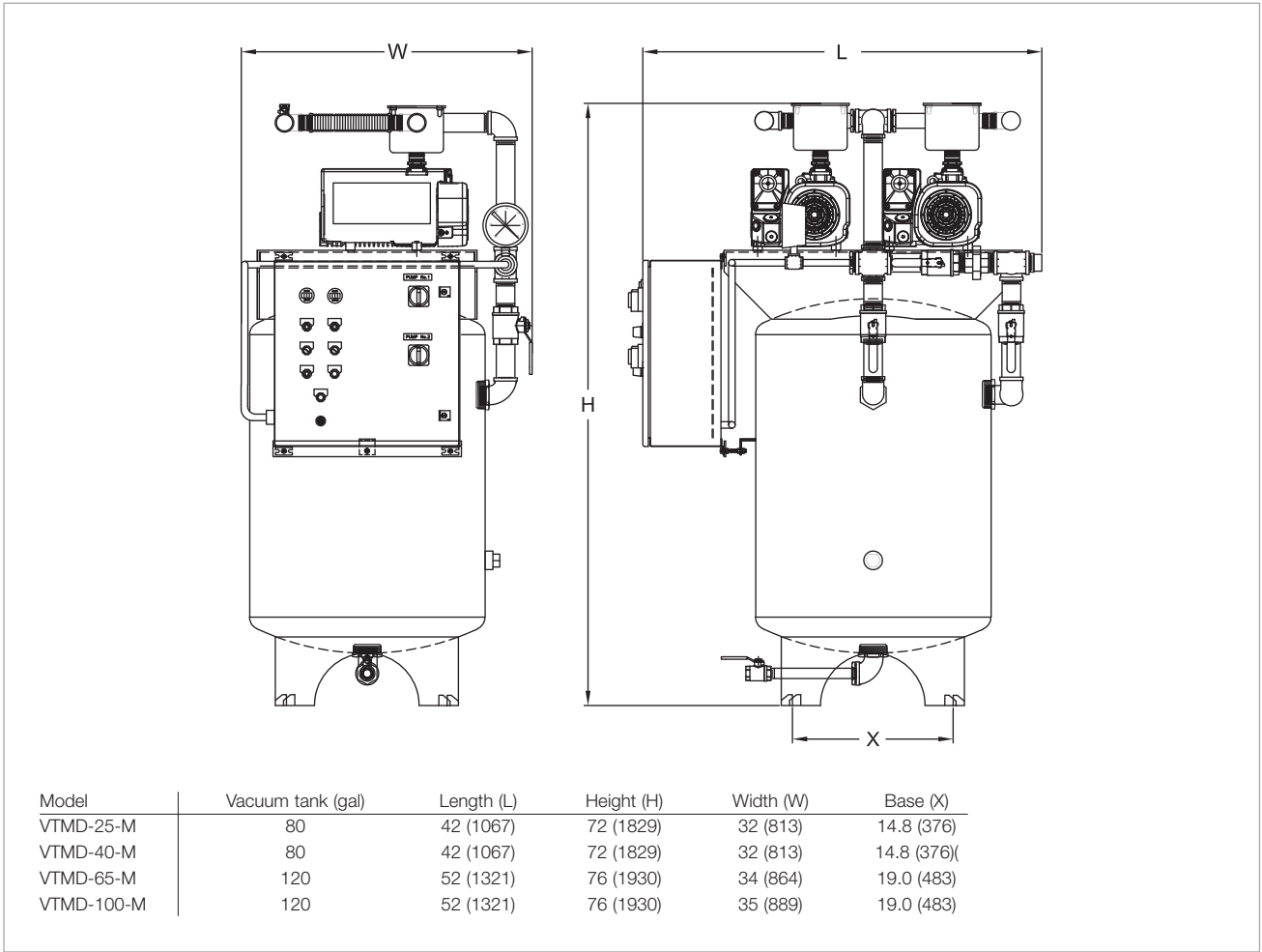
Other System Features

Vacuum pumps and systems:

- Direct-coupled TEFC, IP 55 rated motors
- Integral gas ballast
- Anti suck back valve
- Air cooled design
- NPT type inlet and exhaust connections
- Inlet protection
 - particulate filters rated for 10 micron retention
 - Isolation ball valves
 - Pump check valves
- Vacuum gauge, 0 - 30" Hg
- Vertical receiver, ASME coded, manual drain valve and tank bypass

Local duplex motor control center:

- 2x magnetic motor starters with overload protection
- Main fused disconnect switch
- 2x through the door disconnect switches
- 2x individual control transformers
- 2x elapsed time meters
- 2x hand-off-auto switches
- Lag pump audible alarm with indicator light
- Automatic alternation
 - Lead / Lag operation
- 2x dual set-point vacuum switches
- Emergency stop
- NEMA 12, UL listed enclosure
- System wired for either 208/230/460 V, 3phase, 60 Hz operation



Tank mounted medical vacuum systems; dimensions in inch, dimensions in brackets () are in mm

Technical Data

VTMD-25-M VTMD-40-M VTMD-65-M VTMD-100-M

Displacement (per pump)	acfm	18.3	31.2	41.8	69.0
Capacity 19" HG (VAC) (per pump)	scfm	6.7	11.4	15.3	25.1
Motor (per pump)	hp (W)	1.5 (2.0)	2.0 (2.7)	3.0 (4.1)	5.0 (6.8)
Vacuum tank	gal	80	80	120	120
Vacuum inlet	NPT	1.5"	1.5"	1.5"	1.5"
Vacuum outlet ¹⁾	NPT	1.25"	1.25"	1.25"	1.25"
Weight	lbs (kg)	700 (305)	750 (340)	1125 (510)	1300 (589)

Ordering Information

VTMD-25-M VTMD-40-M VTMD-65-M VTMD-100-M

Part Numbers	VTMD-25-M	VTMD-40-M	VTMD-65-M	VTMD-100-M
208 V, 3 phase, 60 Hz	S 170 530	S 170 533	S 170 499	S 170 490
230 V, 3 phase, 60 Hz	S 170 531	S 170 534	S 170 536	S 170 538
460 V, 3 phase, 60 Hz	S 170 532	S 170 535	S 170 537	S 170 539

¹⁾ System consists of two outlet flanges

Vacuum Pump Oils

Lubricating oils for rotary vane vacuum pumps need to fulfill demanding requirements. Their vapor pressure must be low at high temperatures and the water content and water uptake must be minimal. Their viscosity characteristics need to be flat, lubricating properties need to be excellent and resistant against thermal decomposition and increased mechanical stress.

All the vacuum pump oils listed in the following have been subjected in our factory laboratories to very comprehensive tests closely resembling the conditions encountered in practice by the pumps from the SOGEVAC series.

Under vacuum engineering conditions, lubricating oils may react very differently compared to what is being expected of them.

In order to ensure the best possible performance of the Oerlikon Leybold Vacuum pumps, the use of vacuum pump oils qualified by Oerlikon Leybold Vacuum is required.

When using not suitably qualified third party oils, the oil change intervals and the performance of the vacuum pump may be reduced. Also unwanted deposits may occur which may even cause severe damage to the vacuum pump.

Our oils are subjected to an involved qualification process with respect to their technical suitability in our vacuum pumps.

Our warranty commitment is dependent on the usage of lubricating oils which are qualified by us.

No liability will be assumed for any kind of damage caused through the usage of types of oil which have not been qualified or which are unsuitable.

In order to adapt the pumps to the different applications of our customers, different types of oil are used in the SOGEVAC pumps.

Please note that owing to differing properties not all types of oil may be used in all pumps of the SOGEVAC series.

If you can not find the combination of pump and oil you require by way of a Part No., please ask us for a quotation.

Lubricant types

Mineral oils

Mineral oils are products distilled and refined from crude oil. These do not consist of precisely defined compounds but rather consist of a complex mixture. The way in which the mineral oil is pre-treated and its composition is decisive as to the applications it will be suited for. Depending on the distribution of the hydrocarbons and the dominance of certain properties, mineral oils are grouped according to paraffin-base, naphthenic and aromatic. For the purpose of attaining especially low ultimate pressures, mineral oils must be selected on the basis of a core fraction. The thermal and chemical resistance of mineral oils has been found to be suitable for the majority of applications. They offer a high degree of compatibility with elastomers and resistance to hydrolysis.

Synthetic oils

Synthetic oils are man-made. The group of synthetic oils includes liquids differing widely as to their chemical structure and composition. Correspondingly their physical and chemical properties differ considerably. Synthetic oils are used in those cases where special properties of the oil are required which can not be fulfilled by mineral oils.

The oils given in the following belong to the group of synthetic oils:

Ester oils

Ester oils are organic compounds which excel especially through their high thermal resistance to cracking compared to mineral oils. Chemical resistance is generally quite good, but will depend on the type of ester oil. Elastomer compatibility and resistance against hydrolysis are not so good compared to mineral oils.

Perfluorinated polyether (PFPE)

These are oils which are only composed of carbon (C), fluorine (F) and oxygen (O) atoms. The existing C-O and C-F bonds are highly stable. For this reason PFPE oils are practically inert against all chemical and oxidising influences.

Perfluorinated polyether will not polymerise under the influence of high energy radiation.

PFPE is non-flammable. Oerlikon Leybold Vacuum NC 1/14 has the approval of BAM (German Federal Institute for Materials Research and Testing) for pumping of pure oxygen.

Perfluorinated polyether are used when pumping strongly reactive substances like oxygen (O₂), fluorine (F₂) and uranium hexafluoride (UF₆). Regarding Lewis acids (for example, boron trifluoride (BF₃), aluminum trichloride (AlCl₃)) they are not completely inert. Here reactions may take place at temperatures over 100 °C (212 °F).

Perfluorinated polyether are thermally highly stable. Thermal decomposition may only take place at temperatures of over 290 °C (554 °F).

Caution: Perfluorinated polyether will – when decomposed – release toxic and corrosive gases: hydrogen fluoride (HF), carbonyl difluoride (COF₂). For this reason open fires must be avoided in the workspace where PFPE is being used. Do not smoke in the workspace where PFPE is being used.

Only suitably prepared pumps must be used in connection with perfluorinated polyether, since it is essential that the pump be free of hydrocarbons.

Changing from one basic type of oil to PFPE must be left exclusively to authorised Service Centers. The pumps will have to be fully disassembled and carefully cleaned. Gaskets and filters will have to be exchanged and suitable greases will have to be used.

Safety data sheets are available to professional users from:

E.mail “documentation.vacuum@oerlikon.com” or Internet “www.oerlikon.com/leyboldvacuum”.

Oil for SOGEVAC Pumps in Different Areas of Application

Vacuum pump oil		Automotive industry	Foodstuff industry & packaging	Laser technology	Metallurgy & furnaces	Power stations & district heating	Space simulation	Vacuum coating	Refrigerating & air-conditioning	Research & development	Lamps & tubes manufactures	Analytical technology	Cleaning
FGC 100		■											■
GS 32		■	■	■	■	■	■		■	■	■		■
GS 77		■	■	■	■	■	■		■	■			■
GS 495			■	■	■		■		■	■	■		■
GS 555			■	■	■		■		■	■			■
GS FM 32		■											
GS FM 68		■											
DOT 4	■												
PFPE		■					■		■				
PZ 100				■									
RCF E68								■					

Oil for SOGEVAC Pumps for Different Pump Types

Vacuum pump oil	Pump line			A						B				BI	ATEX
	SV 16, SV 25	SV 40, SV 65	SV 100	SV 200, SV 300	SV 500, SV 630, SV 750	SV 1200	SV 10 B, SV 16 B	SV 25 B	SV 40 B	SV 65 B, SV 100 B, SV 120 B	SV 300 B up to SV 750 B (F)	SV 16 BI, SV 28 BI, SV 40 BI	SV 40 B category 1(I)/2(o) IIA IIb + H ₂	SV 40 B category 1(I)/2(o) category 3(I)/3(o)	
FGC 100	●	●	●	●	▲	▲		▲	●	●	▲				▲
GS 32	■	■					■	■	1)			■			
GS 77	▲	▲	■	■	■	■			2)	■	■				
GS 495	●	●	●				●	●	▲	▲		●	■		▲
GS 555	2)	2)	●	●	●	●	▲	▲	●	●	●		■	■	
GS FM 32	●	●	●				●	●	▲	▲					
GS FM 68			●	●	●	●		▲	●	●	●				
DOT 4		●													
PFPE	●	●	●	●	●	●				●	●	●			● ³⁾
PZ 100				▲	▲	▲					▲				
RCF E68											▲				

- = Standard
- = Possible
- ▲ = Please contact Oerlikon Leybold Vacuum Valence
- 1) = with single-phase motor
- 2) = with three-phase motor
- 3) = ATEX outside only

Oil Recommendations for Various Areas of Application

Application Data

GS 32 ¹⁾

GS 77 ¹⁾

Type of oil	Mineral oil with additives	Mineral oil with additives
Examples of areas of application and process media	Standard oil For pumping air, chemically inert permanent gases (noble gases, for example), water vapor, solvent vapors pumped by laboratory pumps operated with cold traps	Standard oil For pumping air, chemically inert permanent gases (noble gases, for example), water vapor, solvent vapors pumped by laboratory pumps operated with cold traps
Remarks	The ultimate pressures stated in our catalogs are based on operation of the pump with GS 32 (except for the DOT and PFPE pumps)	The ultimate pressures stated in our catalogs are based on operation of the pump with GS 77 (except for the DOT and PFPE pumps)
Elastomer compatibility FPM (FKM) (Viton) NBR (Perbunan) ²⁾ EPDM	Suited Suited Not suited	Suited Suited Not suited

Technical Data

GS 32 ¹⁾

GS 77 ¹⁾

Viscosity			
at 40 °C (104 °F)	mm ² /s (= cSt)	31	70
at 100 °C (212 °F)	mm ² /s (= cSt)	5	9
Flash point	°C (°F)	220 (428)	240 (464)
Density at 15 °C (59 °F)	g/ml	0.86	0.88
Pour point	°C (°F)	-27 (-17)	-27 (-17)

Ordering Information

GS 32 ¹⁾

GS 77 ¹⁾

0.5 liter (0.53 qt)	Part No. 711 17 721	-
1 liter (1.06 qt)	Part No. 711 17 772	Part No. 711 17 771
2 liters (2.1 qt)	Part No. 971 117 723	Part No. 711 17 773
5 liters (5.29 qt)	Part No. 711 17 724	Part No. 711 17 774
20 liters (21.14 qt)	Part No. 711 17 725	Part No. 711 17 775
200 liters (211.42 qt)	-	Part No. 711 17 779

Please note that the technical data stated are only typical data. Slight variations from batch to batch must be expected.

The technical data stated here can not be taken as assured properties

¹⁾ GS 32 is more suitable for SOGEVAC SV 25 B and smaller, where its lower viscosity helps to maximise starting performance.

GS 77 is more suitable for SOGEVAC SV 40 B and larger, where its higher viscosity helps to reach the lowest pressure.

However, all SOGEVAC pumps can operate with either oil, and GS 32 and GS 77 are mixable with each other.

²⁾ Compatibility depends on the amount of acrylonitrile in the NBR

Application Data**GS FM 32****GS FM 68**

Type of oil	Mineral oil NSF H-1 and USDA H-1 certified	Mineral oil NSF H-1 and USDA H-1 certified
Examples of areas of application and process media	Food sector acc. to USDA H1 approved for accidental contact with foodstuffs	Food sector acc. to USDA H1 approved for accidental contact with foodstuffs
Elastomer compatibility FPM (FKM) ((Viton)) NBR (Perbunan) ¹⁾ EPDM	Suited Conditionally suited Not suited	Suited Suited Not suited

Technical Data**GS FM 32****GS FM 68**

Viscosity			
at 40 °C (104 °F)	mm ² /s (= cSt)	32	63
at 100 °C (212 °F)	mm ² /s (= cSt)	6	8
Flash point	°C (°F)	241 (466)	245 (473)
Density at 15 °C (59 °F)	g/ml	0.83	0.87
Pour point	°C (°F)	-57 (-71)	-18 (0)

Ordering Information**GS FM 32****GS FM 68**

1 liter (1.06 qt)	Part No. 711 17 782	Part No. 971 426 021
5 liter (5.29 qt)	Part No. 711 17 783	Part No. 711 17 784
20 liters (21.14 qt)	-	Part No. 711 17 878

Please note that the technical data stated are only typical data. Slight variations from batch to batch must be expected.

The technical data stated here can not be taken as assured properties

¹⁾ Compatibility depends on the amount of acrylonitrile in the NBR

Application Data**GS 495****GS 555**

Type of oil	Diester oil	Diester oil
Examples of areas of application and process media	Used at elevated temperatures Starting of the pump at temperatures between 0 and 12 °C (32 and 54 °F)	Used at elevated temperatures, pumping of air, chemically inert permanent gases (noble gases, for example), carbon dioxide CO ₂ , carbon monoxide CO, aliphatic compounds (for example methane CH ₄ , propane C ₃ H ₈ , ethylene C ₂ H ₄), organic solvent vapors
Remarks	Do not pump any inorganic acids (HCL, HF, for example), no free halogens (CL ₂ , F ₂ , for example) or alkaline media (NH ₃ , for example)	Do not pump any inorganic acids (HCL, HF, for example), no free halogens (CL ₂ , F ₂ , for example) or alkaline media (NH ₃ , for example)
Elastomer compatibility FPM (FKM) (Viton) NBR (Perbunan) ¹⁾ EPDM	Suited Conditionally suited Not suited	Suited Conditionally suited Not suited

Technical Data**GS 495****GS 555**

Viscosity			
at 40 °C (104 °F)	mm ² /s (= cSt)	28	94
at 100 °C (212 °F)	mm ² /s (= cSt)	6	9
Flash point	°C (°F)	245 (473)	250 (482)
Vapor pressure			
at 20 °C (68 °F)	mbar (Torr)	No known	7 x 10 ⁻⁵ (5.25 x 10 ⁻⁵)
at 100 °C (212 °F)	mbar (Torr)	No known	1.5 x 10 ⁻³ (1.1 x 10 ⁻³)
Density at 15 °C (59 °F)	g/ml	0.92	0.96
Pour point	°C (°F)	-57 (-71)	-42 (-44)
Middle molecular weight	g/mol	No known	530

Ordering Information**GS 495****GS 555**

1 liter (1.06 qt)	Part No. 971 430 541	Part No. 200 10 272
2 liters (2.1 qt)	Part No. 711 17 763	Part No. 971 430 531
5 liters (5.29 qt)	Part No. 200 03 452	-
20 liters (21.14 qt)	Part No. 711 17 766	Part No. 200 00 193
200 liters (211.42 qt)	-	Part No. 971 460 221

Please note that the technical data stated are only typical data. Slight variations from batch to batch must be expected.
The technical data stated here can not be taken as assured properties

¹⁾ Compatibility depends on the amount of acrylonitrile in the NBR

Application Data**DOT 4****NC 1/14**

Type of oil	Brake fluid	PFPE
Examples of areas of application and process media	Filling of brake fluid circuits in the car industry	For pumping strong oxidants like oxygen, O ₂ , ozone O ₃ , nitrogen oxides NO _x and sulphur oxides (SO ₂ , SO ₃) as well as reactive substances like halogens (for example fluorine F ₂ , chlorine Cl ₂), hydrogen halides (for example hydrogen chloride HCl, hydrogen bromide HBr), uranium hexafluoride UF ₆ , and conditionally Lewis acids (for example, boron trichloride BCl ₃)
Remarks	Use only in pumps modified for DOT 4 Mixing with other types of oil must be absolutely avoided	Use only in pumps modified for PFPE Mixing with other types of oil must be absolutely avoided Avoid pumping water vapour, especially with corrosive media (see above)
Elastomer compatibility FPM (FKM) ((Viton)) NBR (Perbunan) ¹⁾ EPDM	Not suited Not suited Suited	Suited Suited Suited

Technical Data**DOT 4****NC 1/14**

Viscosity			
at 40 °C (68 °F)	mm ² /s (= cSt)	No known	47
at 100 °C (212 °F)	mm ² /s (= cSt)	> 2	5
Flash point	°C (°F)	> 120	dropped ²⁾
Vapor pressure			
at 20 °C (68 °F)	mbar (Torr)	1.3 (1.0)	3 x 10 ⁻⁷ (2.2 x 10 ⁻⁷)
at 100 °C (212 °F)	mbar (Torr)	No known	6 x 10 ⁻⁴ (4.5 x 10 ⁻⁴)
Density at 15 °C (59 °F)	g/ml	1.05	1.89 ³⁾
Pour point	°C (°F)	No known	-40 (-40)
Middle molecular weight	g/mol	No known	2500

Ordering Information**DOT 4****NC 1/14**

1 liter (1.06 qt)	Part No. 200 10 037	Part No. 177 38
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Please note that the technical data stated are only typical data. Slight variations from batch to batch must be expected.

The technical data stated here can not be taken as assured properties

¹⁾ Compatibility depends on the amount of acrylonitrile in the NBR

²⁾ **Caution:** When being decomposed at temperatures over 290 °C (554 °F), toxic and corrosive gases will be released.

For this reason open fires must be avoided in the workspace where PFPE is being used. Do not smoke in the workspace where PFPE is being used

³⁾ at 20 °C (68 °F)

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Application Data

HE-100 ¹⁾

HE-700 ¹⁾

Type of oil	Paraffin-base mineral oil with additives to improve oxidization stability and wearing properties	Paraffin-base mineral oil with additives to improve oxidization stability and wearing properties
Examples of areas of application and process media	Standard oil For pumping air, chemically inert permanent gases (noble gases, for example), water vapor, solvent vapors pumped by laboratory pumps operated with cold traps	Standard oil For pumping air, chemically inert permanent gases (noble gases, for example), water vapor, solvent vapors pumped by laboratory pumps operated with cold traps
Remarks	The ultimate pressures stated in our catalogs are based on operation of the pump with HE-100 (except for the DOT and PFPE pumps)	The ultimate pressures stated in our catalogs are based on operation of the pump with HE-700 (except for the DOT and PFPE pumps)
Elastomer compatibility FPM (FKM) ((Viton)) NBR (Perbunan) ²⁾ EPDM	Suited Suited Not suited	Suited Suited Not suited

Technical Data

HE-100 ¹⁾

HE-700 ¹⁾

Viscosity			
at 40 °C (104 °F)	mm ² /s (= cSt)	32	79
at 100 °C (212 °F)	mm ² /s (= cSt)	5.3	9.5
Flash point	°C (°F)	206 (403)	224 (435)
Vapor pressure			
at 93 °C (200 °F)	mbar (Torr)	2.1 x 10 ⁻³ (1.6 x 10 ⁻³)	1.6 x 10 ⁻² (1.2 x 10 ⁻²)
Pour point	°C (°F)	-27 (-17)	-20 (-4)

Ordering Information

HE-100 ¹⁾

HE-700 ¹⁾

1 qt (1 l)	Part No. 898 537	-
1 gal (3.8 l)	Part No. 898 538	Part No. 726 25 023
55 gal (208 l)	Part No. 898 539	Part No. 726 25 022

Please note that the technical data stated are only typical data. Slight variations from batch to batch must be expected.

The technical data stated here can not be taken as assured properties

¹⁾ HE-100 is more suitable for SOGEVAC SV 100 B and smaller, where its lower viscosity helps to maximise starting performance.

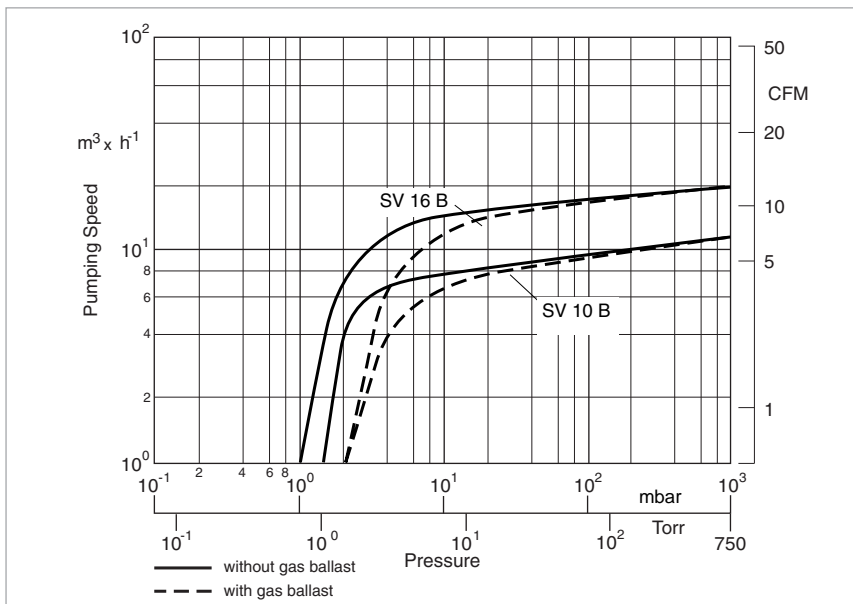
HE-700 is more suitable for SOGEVAC SV 200 B and larger, where its higher viscosity helps to reach the lowest pressure.

However, all SOGEVAC pumps can operate with either oil, and HE-100 and HE-700 are mixable with each other.

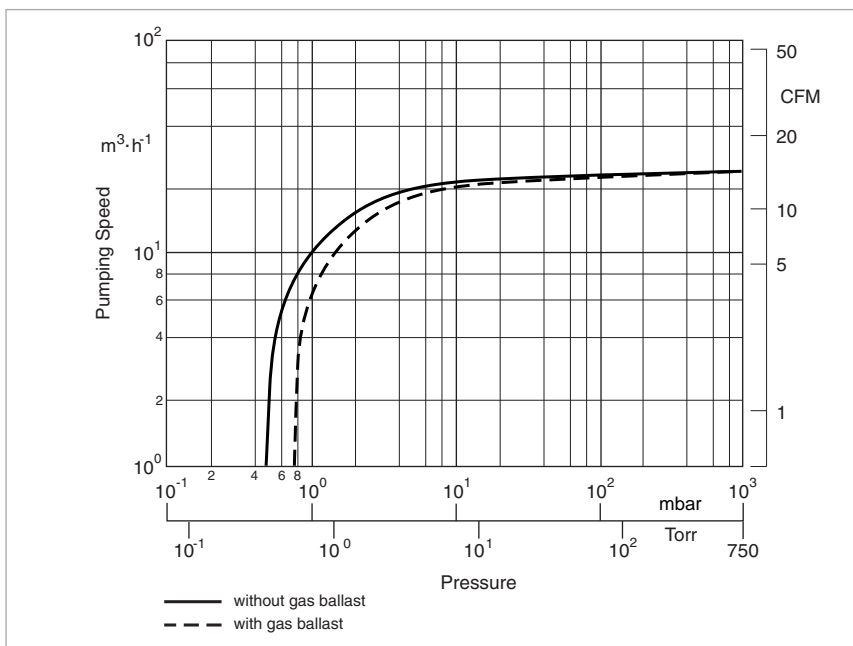
²⁾ Compatibility depends on the amount of acrylonitrile in the NBR

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60 Hz Curves

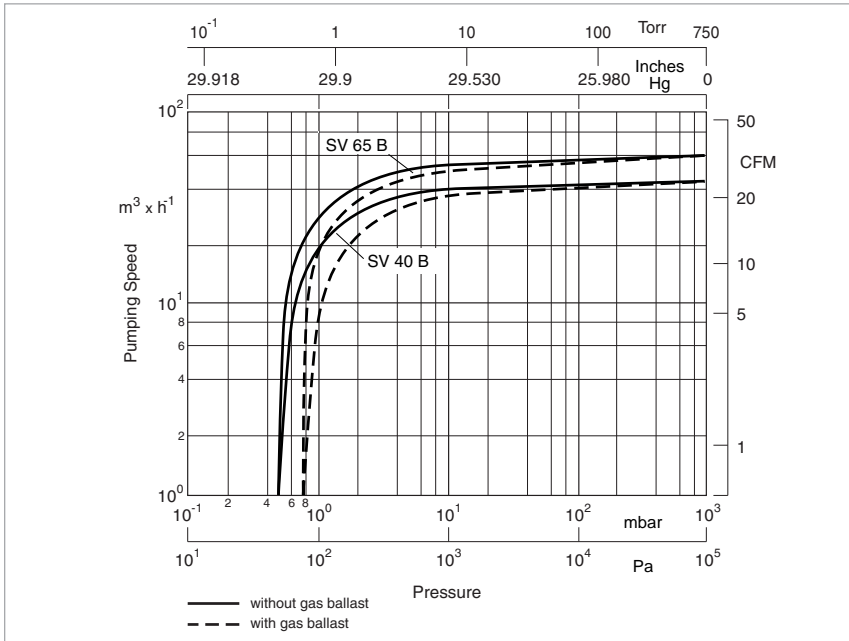


Pumping speed characteristics for the SOGEVAC SV 10 B and SV 16 B at 60 Hz

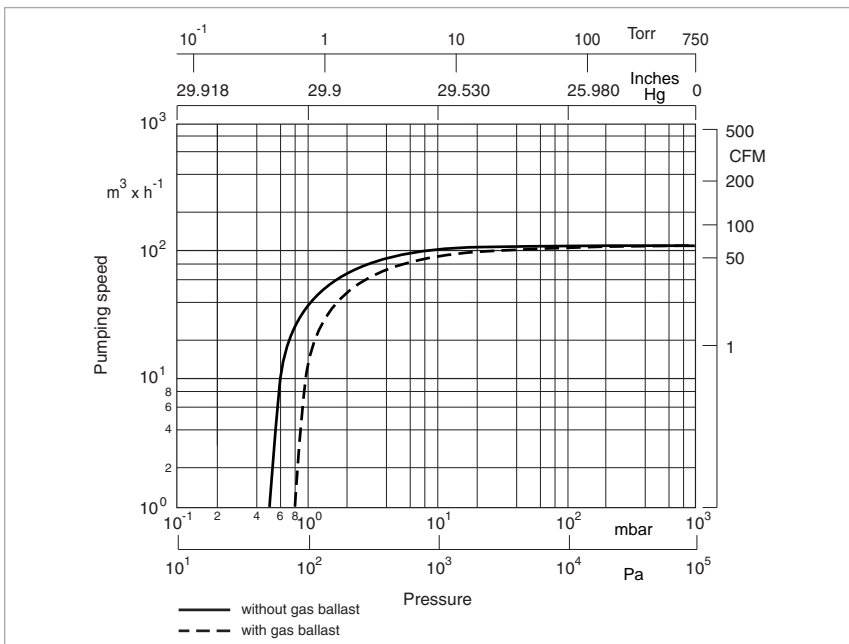


Pumping speed characteristics for the SOGEVAC SV 25 B at 60 Hz

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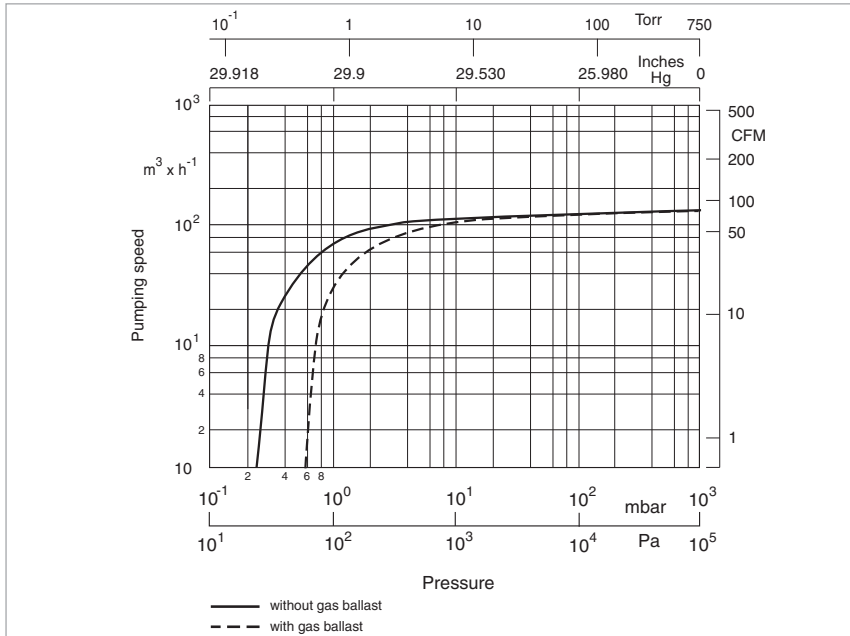


Pumping speed characteristics for the SOGEVAC SV 40 B and SV 65 B at 60 Hz

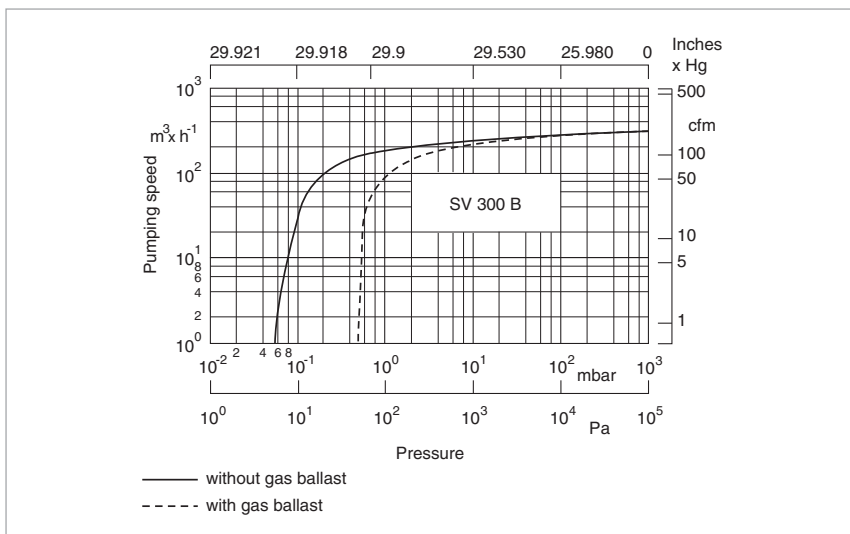


Pumping speed characteristics for the SOGEVAC SV 100 B at 60 Hz

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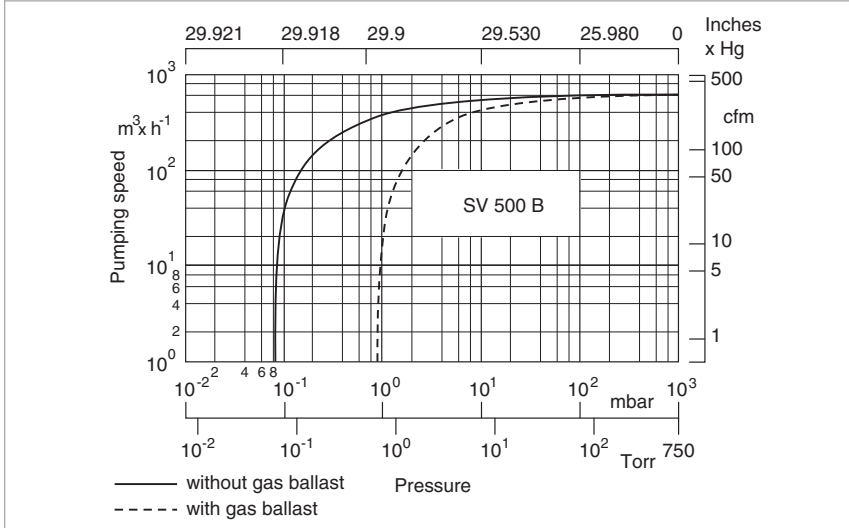


Pumping speed characteristics for the SOGEVAC SV 120 B at 60 Hz

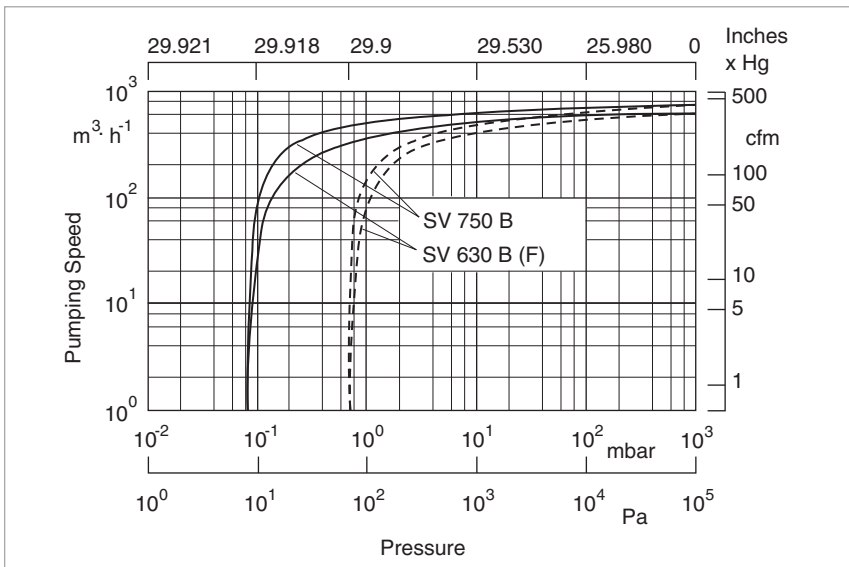


Pumping speed characteristics for the SOGEVAC SV 300 B at 60 Hz

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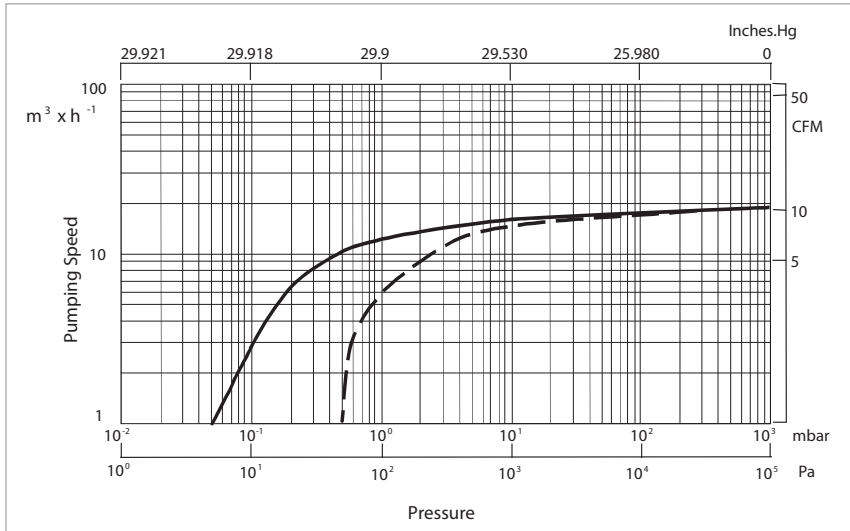


Pumping speed characteristics for the SOGEVAC SV 500 B at 60 Hz

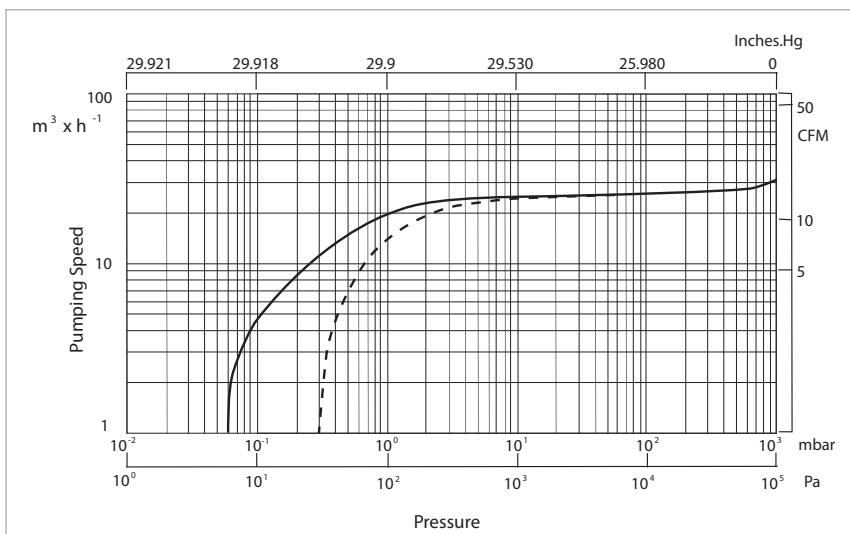


Pumping speed characteristics for the SOGEVAC SV 630 B(F) and SV 750 B at 60 Hz

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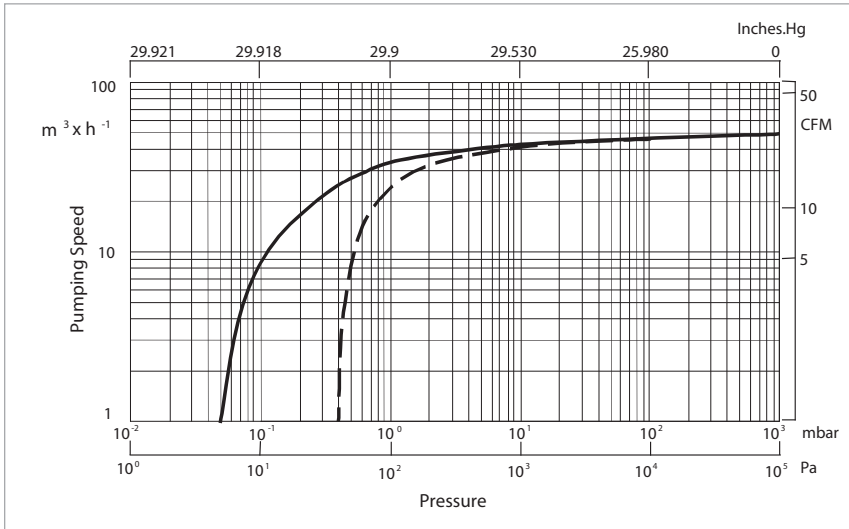


Pumping speed characteristics for the SOGEVAC SV 16 BI at 60 Hz

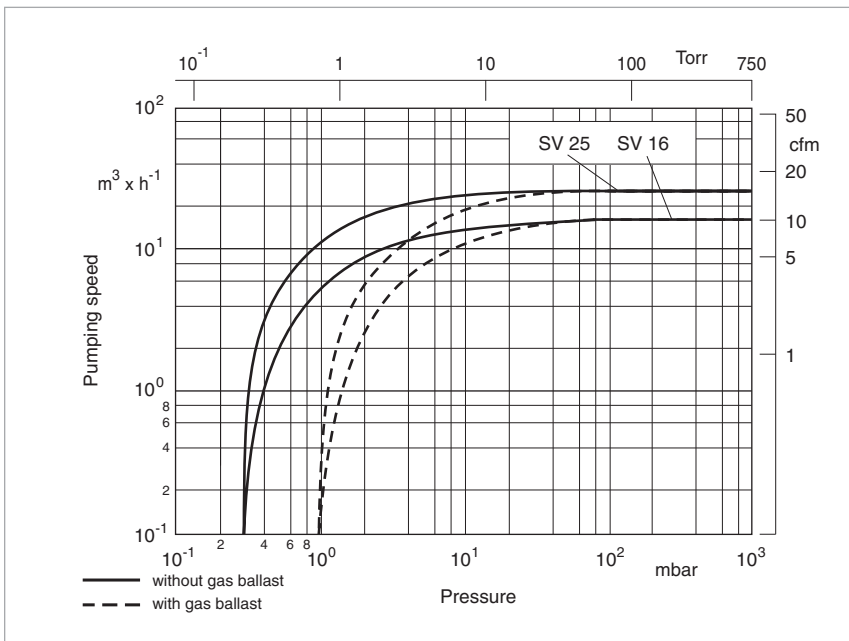


Pumping speed characteristics for the SOGEVAC SV 28 BI at 60 Hz

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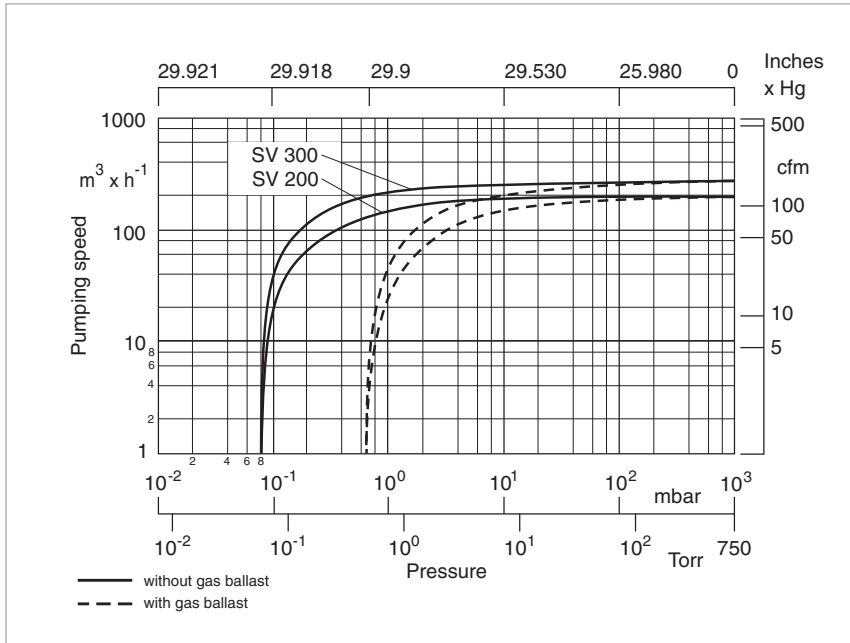


Pumping speed characteristics for the SOGEVAC SV 40 BI at 60 Hz

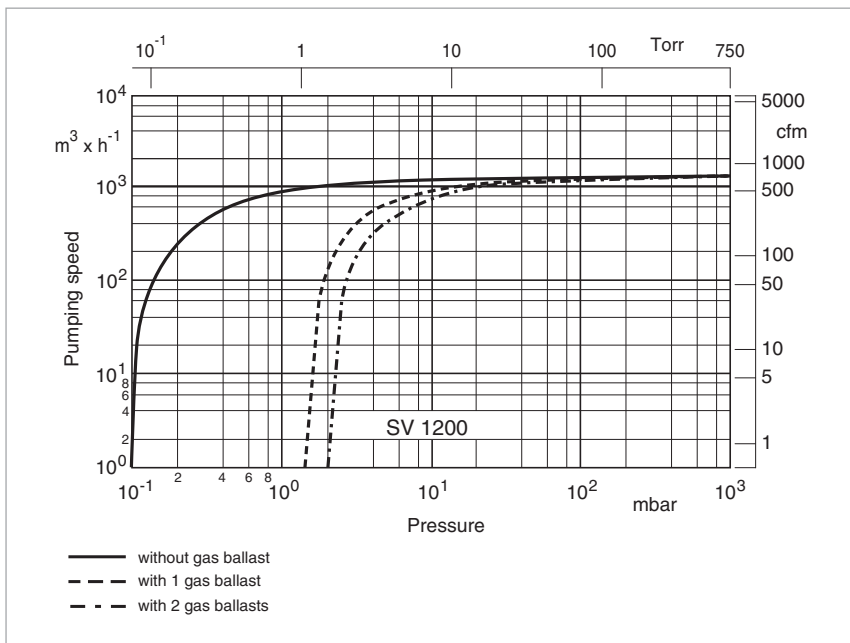


Pumping speed characteristics for the SOGEVAC SV 16 and SV 25 at 60 Hz

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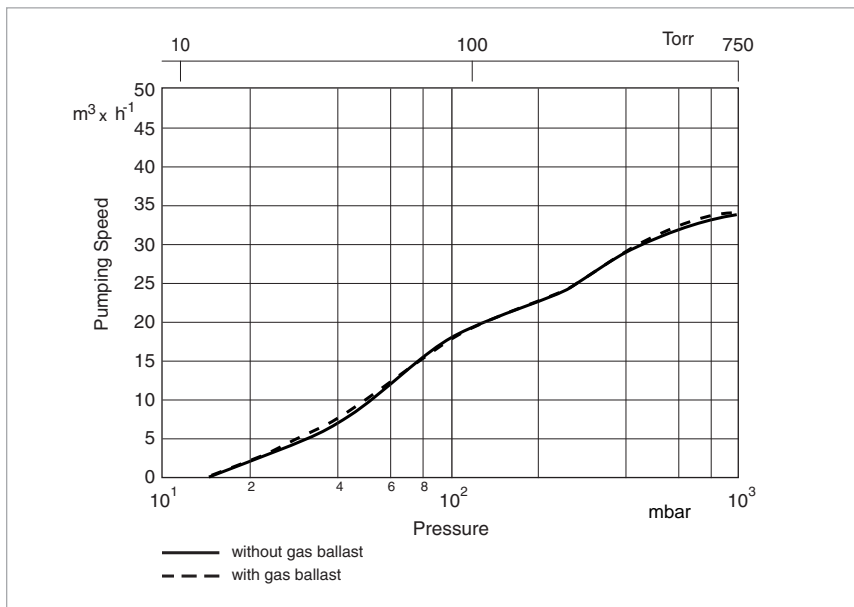


Pumping speed characteristics for the SOGEVAC SV 200 and SV 300 at 60 Hz

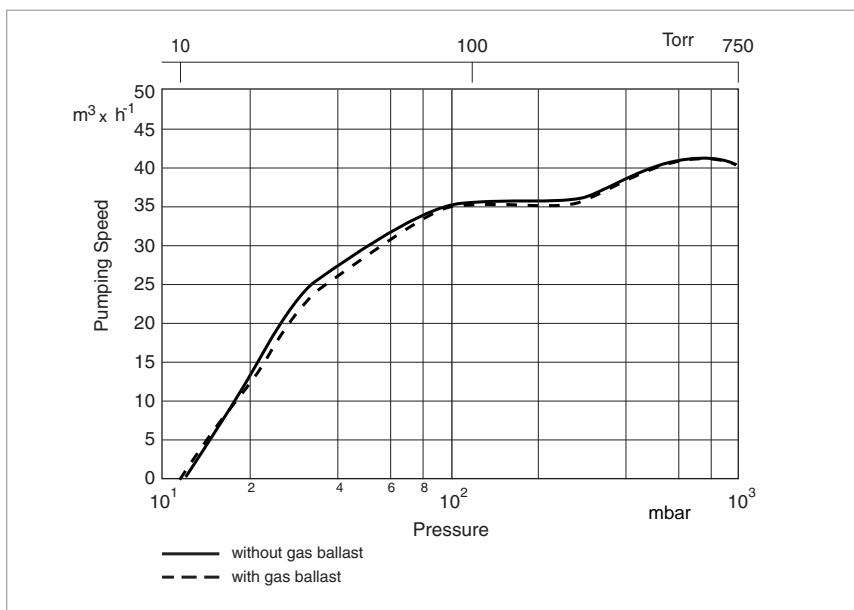


Pumping speed characteristics for the SOGEVAC SV 1200 at 60 Hz

Only available for purchase in North and South America



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

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