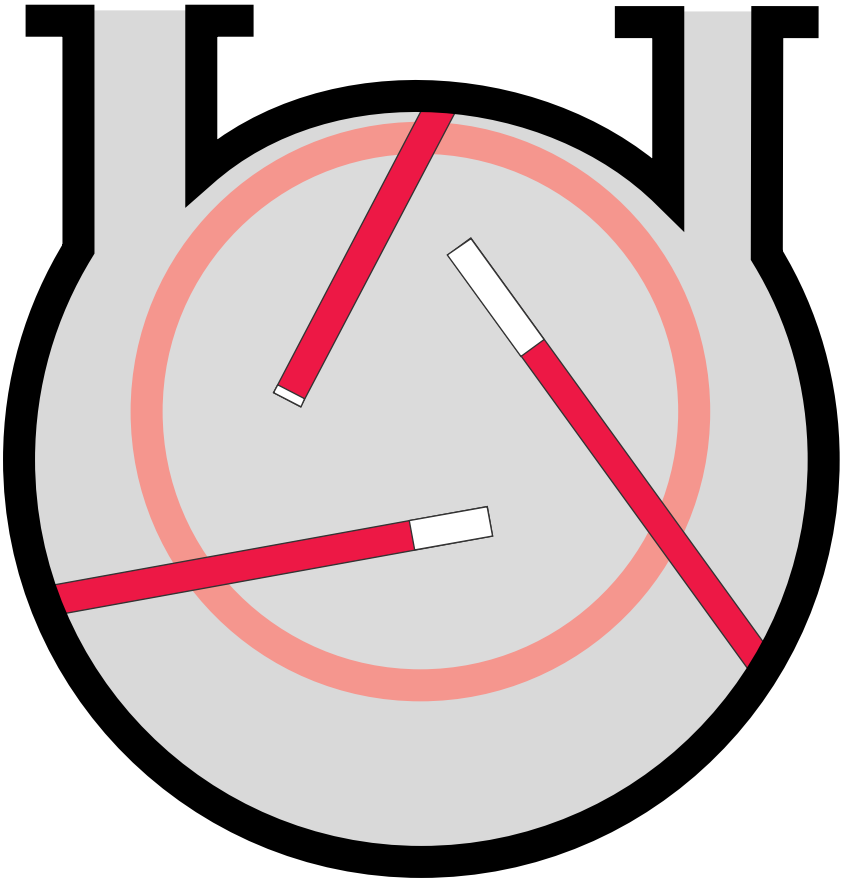
C02

SOGEVAC

Rotary Vane Vacuum Pumps

single-stage, oil-sealed,
16 - 1150 $m^3 \times h^{-1}$ (9.4 - 677 cfm)



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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 pumps or high vacuum pumps. By design, rotary vane pumps run quietly and do not produce much noise.

Many years of experience in vacuum engineering and the latest developments in pump technology combine in the SOGEVAC range the desire to adapt to the requirements of both the industry and the environment. The comprehensive range (pumping speeds ranging from 16 to 1200 $m^3 \times h^{-1}$ (9.4 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

- Operation from atmospheric pressure to ultimate pressure
- High pumping speed also at low pressures
- Low noise level
- Low vibrations
- Integrated exhaust filter, up to 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 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

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 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 compressed 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.

This demister system, optimized to suit all operating conditions of the vacuum pump ensures oil-mist free exhaust gas (degree of separation over 99.9%) even at high intake pressures and when pumping vapors.

LEYBOLD rotary vane 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.

Depending on requirements, the motor is linked to the pumping section directly via a coupling or via a V-belt. All vacuum components like anti-suckback, exhaust filter with oil return line needed for a complete vacuum unit as well as the optimized placement of all controls and monitoring components allow for an extremely compact unit.

Quiet Operation

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

Anti-Suckback Valve

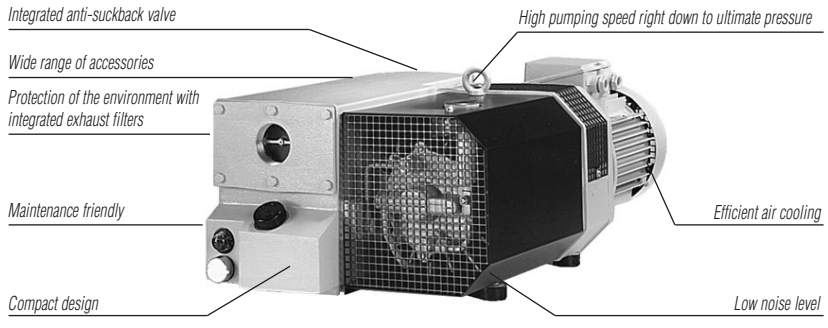
A valve is built into the intake of the SOGEVAC pumps. This "anti-suckback valve" is protected by a metal wire-mesh filter. During standstill of the pump (for example due to shutting down or a power failure) this valve closes the intake. This prevents the pressure from rising in the connected chamber 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) and even when the gas ballast valve is open.

Protection of the Environment

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

Supplied Equipment

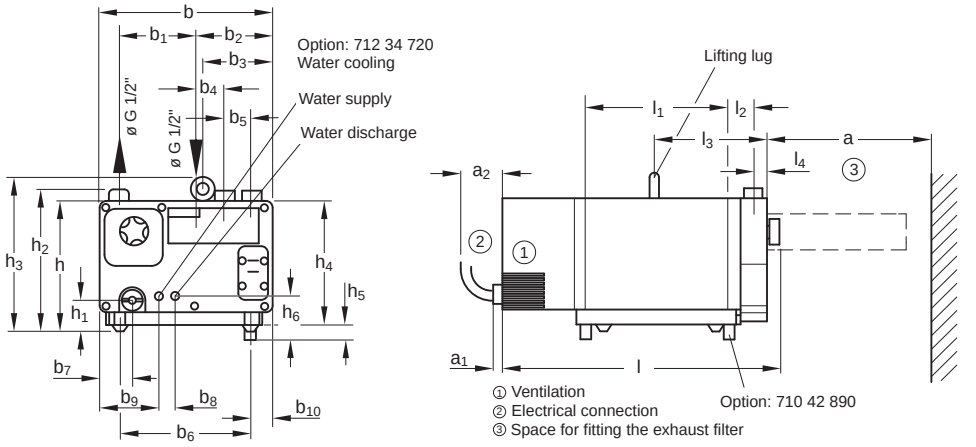
All pumps are delivered with the required quantity of oil: SV 16 to SV 65 in a separate canister (GS 32 oil), whereas the SV 100 to SV 1200 already contain the oil (GS 77) and are thus ready for operation.



Outstanding features of the SOGEVAC pumps

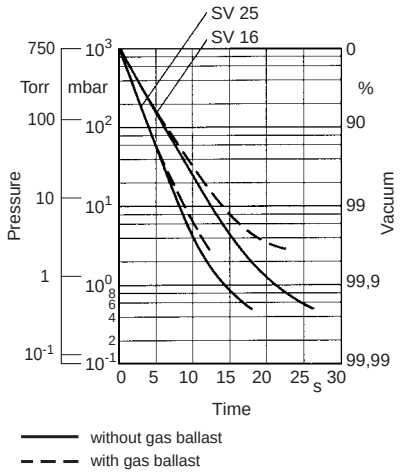
SOGEVAC SV 16/SV 25

SOGEVAC SV 25

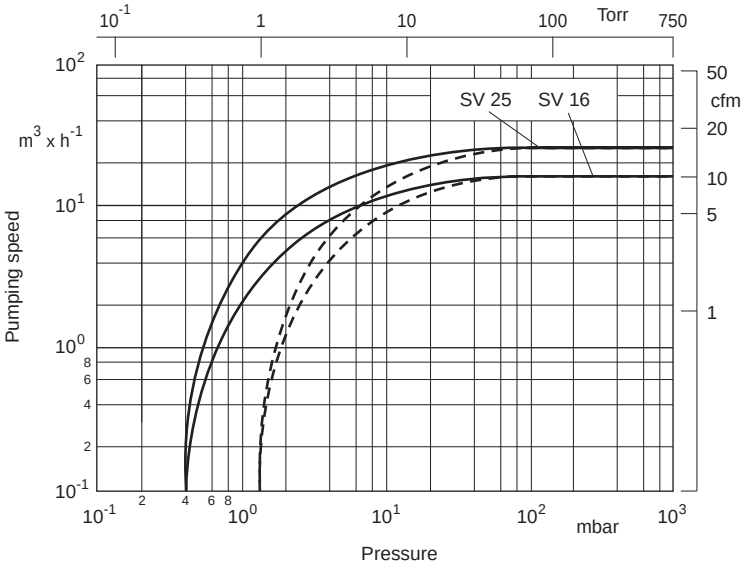


Type SV		a	a_1	a_2	b	b_1	b_2	b_3	b_4	b_5	b_6	b_7	b_8	b_9	b_{10}	h	h_1	h_2	h_3	h_4	h_5	h_6	l	l_1	l_2	l_3	l_4
16 / 25	mm	250	15	65	263	116	115	105	45	40	198	50	25	90	34	200	49	218	236	192	20	67	422	218	36	170	20
	in.	9.84	0.59	2.56	10.35	4.57	4.53	4.13	1.77	0.46	7.8	1.97	0.98	3.54	1.34	7.87	1.93	8.58	9.29	7.56	0.79	2.64	16.61	8.58	0.71	6.69	0.79

Dimensional drawing for the SOGEVAC SV 16 and SOGEVAC 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]	$m^3 \times h^{-1}$ (cfm)	16 (9.4)	19 (11)	25 (14.7)	29 (17)
Pumping speed [1]	$m^3 \times h^{-1}$ (cfm)	14.5 (8.5)	17 (10)	22.5 (13.3)	25.5 (15)
Ultimate partial pressure without gas ballast [1]	mbar (Torr)	≤ 0.5 (≤ 0.4)			
Ultimate total pressure with gas ballast [1]	mbar (Torr)	≤ 1.5 (≤ 1.1)			
Water vapor tolerance [1]	mbar (Torr)	40 (30)			
Water vapor capacity	$kg \times h^{-1}$ (qt/hr)	0.3 (0.32)		0.45 (0.47)	
Oil capacity	l (qt)	1.8 (2)			
Noise level [2]	dB(A)	56			
Admissible ambient temperature	°C (°F)	12 to 40 (54 to 104)			
Motor power	kW (hp)	0.55 (1)		0.75 (1.5)	
Nominal speed	min^{-1} (rpm)	1500			
Type of protection	IP	23			
Weight (with oil filling)	kg (lbs)	23 (50.7)		24 (52.9)	
Dimensions L x W x H	mm (in.)	422 x 263 x 236 (16.61 x 10.35 x 9.29)			
Connections, intake and exhaust [3]	G ((BPS) Inside thread)	1/2"		1/2"	

Ordering Information	SOGEVAC SV 16	SOGEVAC SV 25
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 upon request		
Accessories		
Water cooling kit [4]	Part No. 712 34 720	
Oil level monitor [4]	Part No. 711 19 108	
Exhaust filter gauge, mechanical [4]	Part No. 951 91	
Spare parts		
Exhaust filter cartridge	Part No. 712 32 023	
Vanes, set of 3 pieces	Part No. 712 34 370	
Set of gaskets NBR (standard)	Part No. 971 97 152	
Set of gaskets FPM	Part No. 712 30 010	
Repair kit compl.	Part No. 712 41 270	
Pump module compl.	Part No. 712 32 230	Part No. 712 32 220

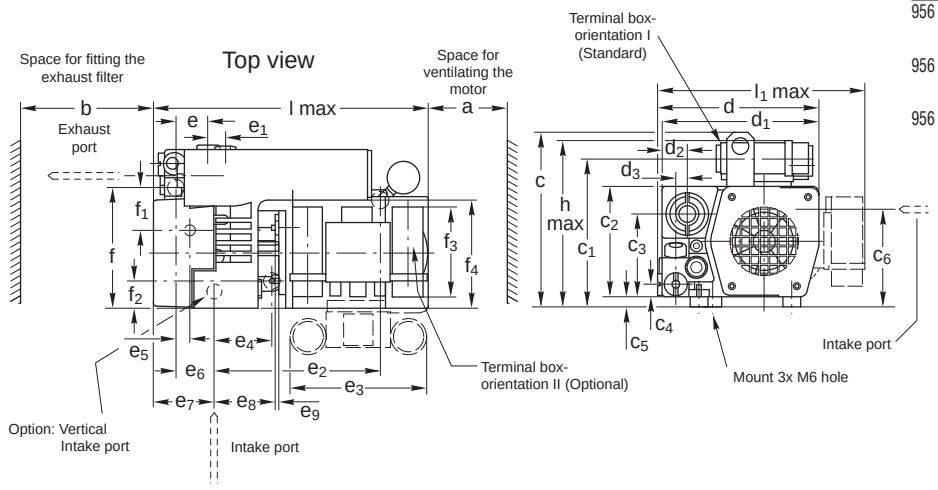
1) To DIN 28 400 and following numbers
2) Operated at the ultimate pressure without gas ballast, free-field measurement at a distance of 1 m
3) European and Japanese pumps have BSP, North and South American versions have NPT
4) Please indicate when ordering a pump

Technical description see Section "General"

Version for the North and South American Continents

SOGEVAC UV 25

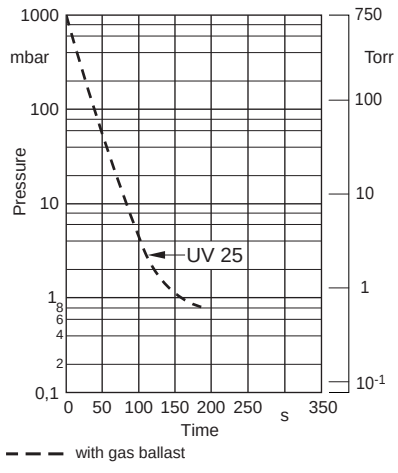
SOGEVAC UV 25



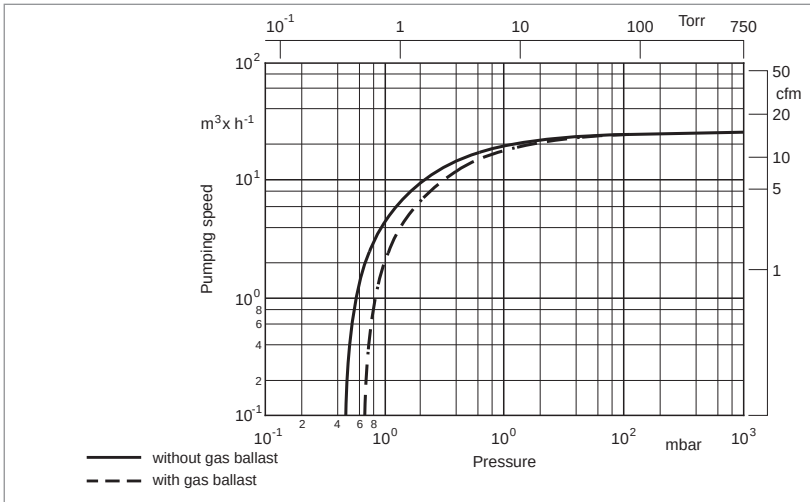
UV 25 Cat. No.	Condenser		l_{max}	$l_{1\,max}$	h_{max}
956 20	–	mm	391	294	232
	–	in.	15.39	11.57	9.13
956 21	C1 + C2	mm	404	304	242
		in.	15.91	11.97	9.53
956 22/23	C1 + C2 + C3	mm	423	304	242
		in.	16.65	11.97	9.53

Type		a	b	c	c_1	c_2	c_3	c_4	c_5	c_6	d	d_1	d_2	d_3	e	e_1	e_2	e_3	e_4	e_5	e_6	e_7	e_8	e_9	f	f_1	f_2	f_{13}	f_4
UV 25	mm	100	200	255	216	160	120	18	15	142	237	230	37	17	46	26	245	200	85	20	55	89	90	5	175	62	40	140	155
	in.	3.94	7.87	10.04	8.5	6.3	4.72	0.71	0.59	5.59	9.33	9.06	1.46	0.67	1.81	1.02	9.65	7.87	3.35	0.79	2.20	3.50	3.54	0.2	6.89	2.44	1.57	5.51	6.10

Dimensional drawing for the SOGEVAC UV 25



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



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

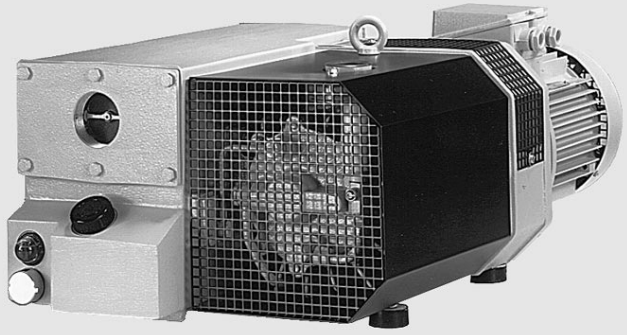
Version for the North and South American Continents

Technical Data		SOGEVAC UV 25	
		50 Hz	60 Hz
Nominal speed [1]	$m^3 \times h^{-1}$ (cfm)	25 (14.7)	30 (17.7)
Pumping speed [1]	$m^3 \times h^{-1}$ (cfm)	23 (13.6)	26 (15.3)
Ult. partial pressure with gas ballast closed [1, 2]	mbar (Torr)	≤ 0.5 (≤ 0.4)	
Ultimate total pressure with standard gas ballast [1, 2]	mbar (Torr)	≤ 0.8 (≤ 0.6)	
Water vapor tolerance with standard gas ballast	mbar (Torr)	≤ 15 (≤ 11.3)	
Water vapor tolerable load with standard gas ballast	$kg \times h^{-1}$ (qt x hr)	0.22 (0.23)	0.25 (0.26)
Average noise level [3]	dB(A)	63	65
Main voltage, 50 Hz/60 Hz [4]	V	230/400	230/460
Motor power	kW (hp)	0.75 (1.0)	0.9 (0.5)
Type of protection	IP	54 - F	54 - F / TEFC
Ambient temperature	°C (°F)	0 to 50 (32 to 122)	
Weight (with oil capacity)	kg (lbs)	38 (83.8)	
Oil capacity	Type / l (qt)	HE-100 / 1 (1.06)	
Connection [5, 6]			
Intake, thread	G (BPS)	1/2"	
Exhaust, thread	G (BPS)	3/4"	
Cooling		air	

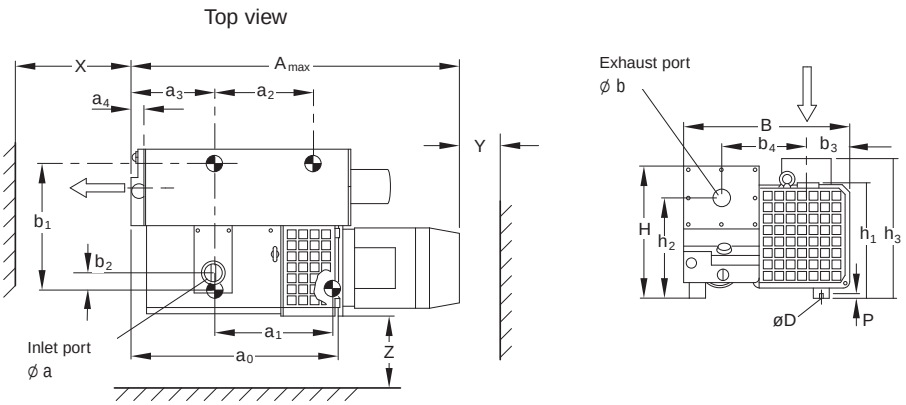
Ordering Information	SOGEVAC UV 25	
	50 Hz	60 Hz
SOGEVAC UV 25 [5]		
with three-phase motor and integrated gas ballast valve		
230/400 V, 50 Hz; 0,75 kW	Part No. 956 20	–
230/460 V, 60 Hz; 0,90 kW	–	Part No. 956 20
with single phase motor and integrated gas ballast valve		
230 V, 50 Hz; 0,75 kW	Part No. 956 21	–
115 V, 60 Hz (NEMA); 1,1 kW	–	Part No. 956 22
230 V, 50/60Hz; 0,9/1,1 kW	Part No. 956 23	Part No. 956 23
OEM models upon request		
Other voltages/frequencies upon request		
Condensate trap	Part No. 951 38 (BSP)	
Exhaust filter cartridge	Part No. 714 12 870	
Set of FPM gaskets	Part No. 714 04 850	
Repair kit (50 and 60 Hz)	Part No. 714 04 540	
Gas ballast removal kit	supplied separately	
Connecting piece G (BPS) 3/4" - NPT 1/2" [6]	Part No. 951 24	
Continuous oil return (for continuous operating pressures over 150 mbar (113 Torr) abs.) [2]	Part No. 951 85	
Intake, vertical	upon request	
Filling with special oil	upon request	

1) To DIN 28 400 and following numbers
2) With Part No. 951 85 accessory the ultimate pressure attained by the pump is 25 mbar (15 Torr)
3) Operated at the ultimate pressure without gas ballast, free-field measurement at a distance of 1 m
4) Other main voltages are possible, see Ordering Information
5) European and Japanese pumps have BSP, North and South American versions have NPT
6) G (BPS) 3/4" - NPT 3/4" when removing the reducer

SOGEVAC SV 40/SV 65/SV 100

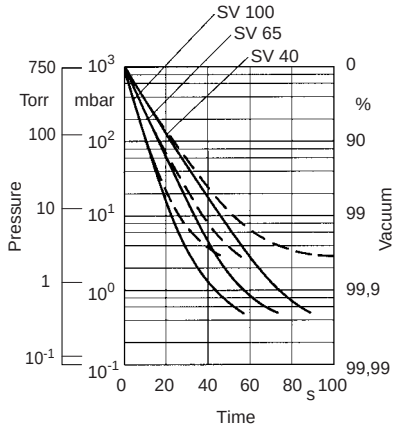


SOGEVAC SV 100

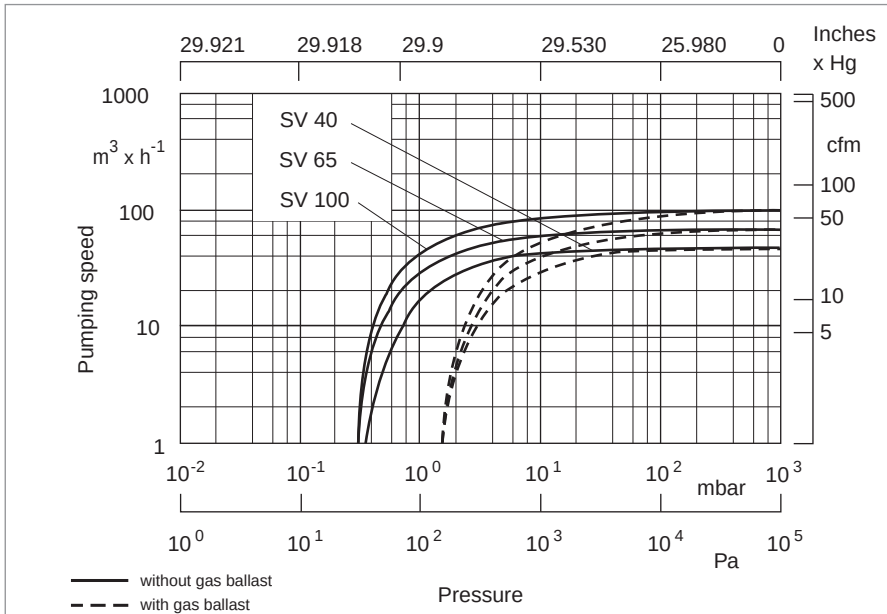


Type		ø a (G)	ø b (G)	A_{max}	a_0	a_1	a_2	a_3	a_4	B	b_1	b_2	b_3	b_4	ø D/P	H	h_1	h_2	h_3	X	Y	Z
SV 40	mm	1 1/4"	1 1/4"	655	365	190	167	163	45	300	183	0	98	145	M8/8	260	237	216	270	350	100	150
	in.	1 1/4"	1 1/4"	25.79	14.37	7.48	6.57	6.42	1.77	11.8	7.20	0	3.86	0.18	M8/8	10.24	9.3	8.5	10.63	13.78	3.94	5.9
SV 65	mm	1 1/4"	1 1/4"	695	405	230	167	163	45	300	183	0	98	145	M8/8	260	237	216	270	350	100	150
	in.	1 1/4"	1 1/4"	27.36	15.94	9.06	6.57	6.42	1.77	11.8	7.20	0	3.86	0.18	M8/8	10.24	9.3	8.5	10.63	13.78	3.94	5.9
SV 100	mm	1 1/4"	2"	800	470	250	285	195	42	440	185	44	119	219	M10/8	280	273	220	300	350	100	200
	in.	1 1/4"	2"	31.5	18.5	9.94	11.22	7.68	1.65	17.32	7.28	1.73	4.69	8.62	M10/8	11	10.75	8.66	11.8	13.78	3.94	7.87

Dimensional drawing for the SOGEVAC SV 40 to SV 100 with standard motor, European version



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



Pumping speed characteristics of the SOGEVAC SV 40 to SV 100 at 50 Hz (60 Hz curves at the end of the section)

Technical Data		SOGEVAC SV 40		SOGEVAC SV 65		SOGEVAC SV 100	
		50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz
Nominal speed [1]	$m^3 \times h^{-1}$ (cfm)	45 (26.5)	55 (32.4)	65 (38.3)	78 (45.9)	100 (58.9)	120 (70.6)
Pumping speed [1]	$m^3 \times h^{-1}$ (cfm)	40 (23.6)	48 (28.3)	53 (31.2)	64 (37.7)	94 (55.4)	113 (66.5)
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)	≤ 0.5 (≤ 0.4)	≤ 0.5 (≤ 0.4)
Ultimate total pressure							
with standard gas ballast [1]	mbar (Torr)	≤ 1.5 (≤ 1.1)	≤ 1.5 (≤ 1.1)	≤ 1.5 (≤ 1.1)	≤ 1.5 (≤ 1.1)	≤ 1.5 (≤ 1.1)	≤ 1.5 (≤ 1.1)
with big gas ballast (Option) [2]	mbar (Torr)	≤ 4 (≤ 3)	≤ 4 (≤ 3)	≤ 4 (≤ 3)	≤ 4 (≤ 3)	≤ 4 (≤ 3)	≤ 4 (≤ 3)
Water vapor tolerance							
with standard gas ballast [1]	mbar (Torr)	15 (11.3)	20 (15)	25 (18.8)	25 (18.8)	25 (18.8)	30 (22.5)
with big gas ballast	mbar (Torr)	30 (22.5)	40 (30)	50 (37.5)	40 (30)	50 (37.5)	60 (45)
Water vapor tolerable load							
with standard gas ballast	$kg \cdot h^{-1}$ (qt/hr)	0.3 (0.32)	0.7 (0.73)	1.0 (1.05)	1.2 (1.3)	1.7 (1.8)	2.0 (2.1)
with big gas ballast	$kg \cdot h^{-1}$ (qt/hr)	0.6 (0.63)	1.25 (1.3)	2.0 (2.1)	1.9 (2.0)	3.5 (3.7)	4.2 (4.4)
Oil capacity, min.	l (qt)	2.0 (2.1)	2.0 (2.1)	2.0 (2.1)	2.0 (2.1)	3.5 (3.7)	3.5 (3.7)
Noise level [3]	dB(A)	63	68	64	69	70	74
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)	12 - 40 (54 - 104)
Motor power	kW (hp)	1.1 (1.5)	1.5 (2.0)	1.5 (2.0)	1.8 (2.5)	2.2 (3.0)	3 (4.0)
Nominal speed	min^{-1} (rpm)	1450 (1450)	1750 (1750)	1450 (1450)	1750 (1750)	1450 (1450)	1750 (1750)
Type of protection	IP	54	TEFC/54[5]	54	TEFC/54[5]	54	TEFC/54[5]
Weight (with oil filling)	kg (lbs)	40 (88.2)	41 (90.4)	46 (101.4)	47 (103.4)	96 (211.2)	97 (213.4)
Dimensions L x W x H	mm (in.)	655 x 300 x 260 (25.79x11.81x10.24)	655 x 300 x 260 (25.79x11.81x10.24)	695 x 300 x 260 (25.95x11.81x10.24)	695 x 300 x 260 25.95x11.81x10.24)	800 x 440 x 280 (31.50x17.32x11.02)	800 x 440 x 280 (31.50x17.32x11.02)
Connection [4] Intake, thread	G (BPS)	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"
Exhaust, thread	G (BPS)	1 1/4"	1 1/4"	1 1/4"	1 1/4"	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

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

5) CEI motor (Europe) 50/60 Hz has IP 54, NEMA motor has TEFC

Technical description see Section “General”

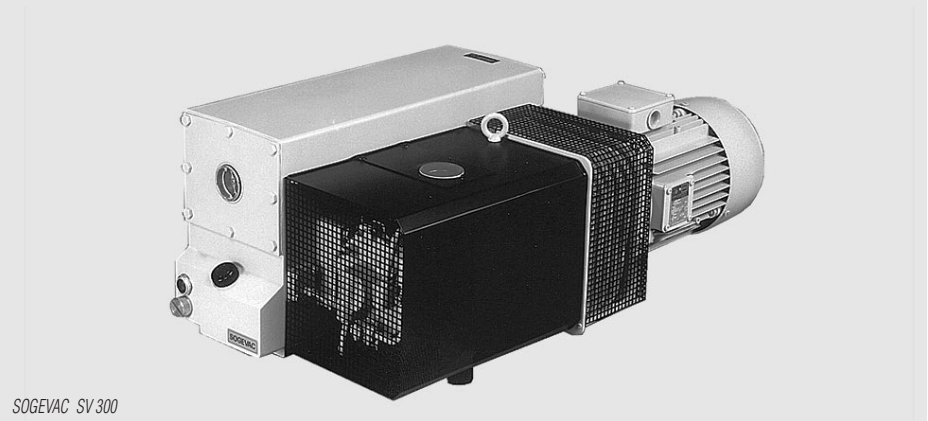
Ordering Information	SOGEVAC SV 40		SOGEVAC SV 65		SOGEVAC SV 100	
	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz
SOGEVAC SV 40/SV 65/SV 100 [1]						
with three-phase motor, without gas ballast						
230/400 V, 50 Hz and 230/460 V, 60 Hz (CEI)	Part No. 109 04		Part No. 109 06		–	
230/400 V, 50 Hz and 460 V, 60 Hz (CEI)	–		–		Part No. 109 10	
200 V, 50/60 Hz (JIS)	Part No. 955 04		Part No. 955 06		Part No. 955 10	
with three-phase motor and integrated gas ballast valve						
230/400 V, 50 Hz and 230/460 V, 60 Hz (CEI)	Part No. 109 05		Part No. 109 07		–	
230/400 V, 50 Hz and 460 V, 60 Hz (CEI)	–		–		Part No. 109 11	
208 - 230/460 V, 60 Hz (NEMA) [400 V, 50 Hz]	Part No. 950 05		Part No. 950 07		Part No. 950 11	
200 V, 50/60 Hz (JIS)	Part No. 955 05		Part No. 955 07		Part No. 955 11	
Other voltages/frequencies upon request						
Accessories						
Adaptor for Roots pump RUVAC 251 or 501 [2]	–		–		Part No. 953 30	
Oil level monitor [2]	Part No. 711 19 108		Part No. 711 19 108		Part No. 711 19 108	
Thermal switch [2]	Part No. 711 19 111		Part No. 711 19 111		Part No. 711 19 111	
Water cooling kit [2]	Part No. 711 19 171		Part No. 711 19 171		Part No. 711 19 172	
Exhaust filter gauge, mechanical [2]	Part No. 951 94		Part No. 951 94		Part No. 951 94	
Gas ballast valve, electromagnetic 24 V DC	Part No. 951 23		Part No. 951 23		Part No. 951 28	
Spare parts						
Oil filter	Part No. 712 12 718		Part No. 712 12 718		Part No. 712 13 158	
Exhaust filter cartridge	Part No. 710 64 763		Part No. 710 64 763		Part No. 710 64 763 2 pieces required	
Vanes, set of 3 pieces	Part No. 714 01 060		Part No. 714 01 070		Part No. 714 01 510	
Set of gaskets NBR (standard)	Part No. 971 97 252		Part No. 971 97 252		Part No. 971 97 452	
Set of gaskets FPM	Part No. 714 03 490		Part No. 714 03 490		Part No. 714 03 500	
Set of gaskets EPDM	Part No. 714 03 510		Part No. 714 03 510		–	
Repair kit compl.	Part No. 714 03 540		Part No. 714 03 550		Part No. 714 03 560	
Pump module compl.	Part No. 710 01 710		Part No. 710 01 730		Part No. 710 01 750	

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

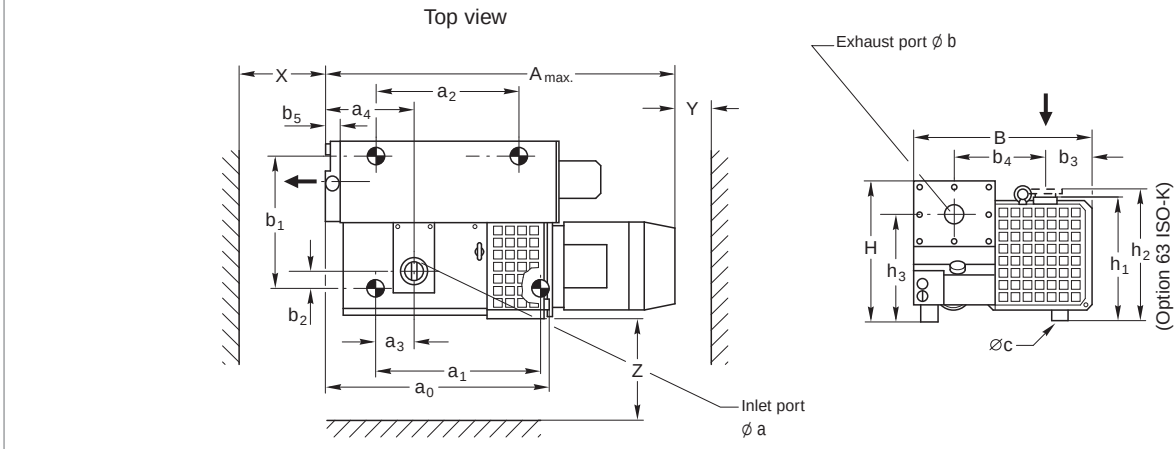
2) Please indicate when ordering a pump

Notes

SOGEVAC SV 200/SV 300

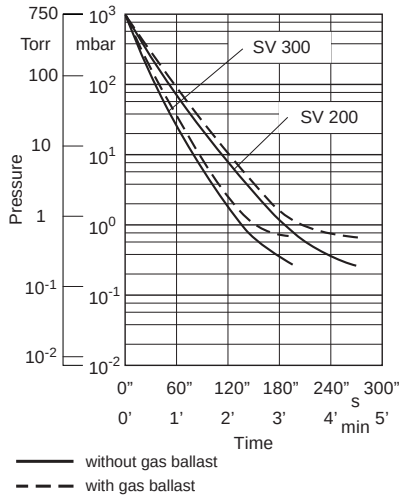


SOGEVAC SV 300

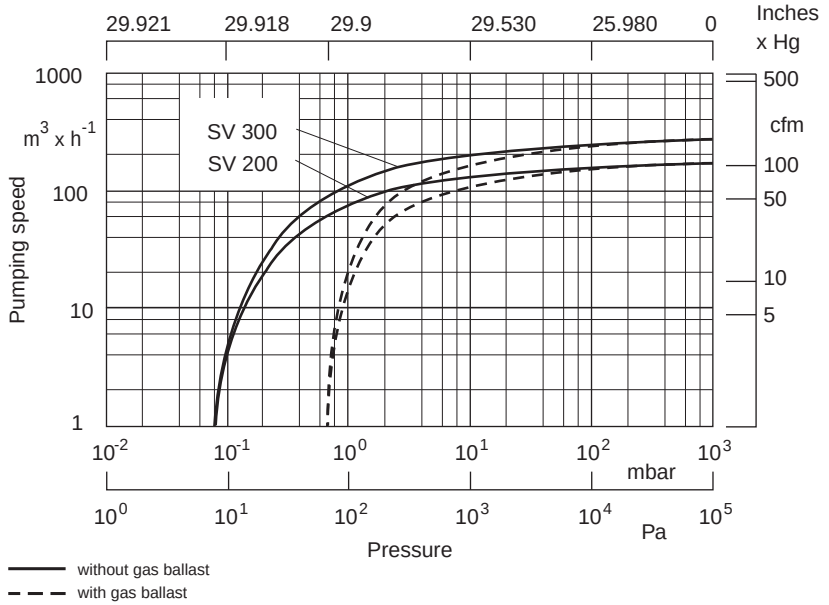


Type		ø a (G)	ø b (G)	A_{max}	a_0	a_1	a_2	a_3	a_4	B	b_1	b_2	b_3	b_4	b_5	c	H	h_1	h_2	h_3	X	Y	Z
SV 200	mm	2"	2"	940	548	390	252	62	214	535	394	50	140	269	40	M10	415	352	392	318	350	150	300
	in.	2"	2"	37.0	21.57	15.35	9.92	2.44	8.43	21.06	15.51	1.97	5.51	10.59	1.57	M10	16.34	13.86	15.43	12.52	13.78	5.91	11.81
SV 300	mm	2"	2"	1080	656	378	313	0	264	535	394	50	140	269	40	M10	415	352	392	318	350	150	300
	in.	2"	2"	42.52	25.83	14.88	12.32	0	10.39	21.06	15.51	1.97	5.51	10.59	1.57	M10	16.34	13.86	15.43	12.52	13.78	5.91	11.81

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]	$m^3 \times h^{-1}$ (cfm)	180 (106)	220 (129.5)	280 (164.9)	340 (200.3)
Pumping speed [1]	$m^3 \times h^{-1}$ (cfm)	170 (100.1)	200 (117.8)	240 (141.4)	290 (170.8)
Ultimate partial pressure without gas ballast [1]	mbar (Torr)	$\leq 8 \times 10^{-2}$ ($\leq 6 \times 10^{-2}$)	$\leq 8 \times 10^{-2}$ ($\leq 6 \times 10^{-2}$)	$\leq 8 \times 10^{-2}$ ($\leq 6 \times 10^{-2}$)	$\leq 8 \times 10^{-2}$ ($\leq 6 \times 10^{-2}$)
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]	mbar (Torr)	30 (22.5)	40 (30)	30 (22.5)	40 (30)
with big gas ballast [2]	mbar (Torr)	50 (37.5)	50 (37.5)	50 (37.5)	50 (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.	l (qt)	5.0 (5.3)	5.0 (5.3)	8.5 (8.9)	8.5 / 11.5
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 (5.5)	5.5 (7.5)	5.5 (7.5)	7.5 (10.0)
Nominal speed	min^{-1} (rpm)	1450 (1450)	1750 (1750)	1450 (1450)	1750 (1750)
Type of protection	IP	54	TEFC/54[5]	54	TEFC/54[5]
Weight (with oil filling)	kg (lbs)	140 (308.7)	155 (341.8)	180 (396.9)	195 (430)
Dimensions L x W x H	mm (in.)	940 x 535 x 415 (37 x 21.06 x 17.71)	940 x 535 x 415 (37 x 21.06 x 17.71)	1080 x 535 x 415 (42.51 x 21.06 x 17.71)	1080 x 535 x 415 (42.51 x 21.06 x 17.71)
Connections [4] intake, threads	G (BPS)	2"	2"	2"	2"
exhaust, threads	G (BPS)	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 or with gas ballast, free-field measurement at a distance of 1 m

[4] European and Japanese pumps have BSP, North and South American versions have NPT

[5] CEI motor (Europe) 50/60 Hz has IP 54, NEMA motor has TEFC

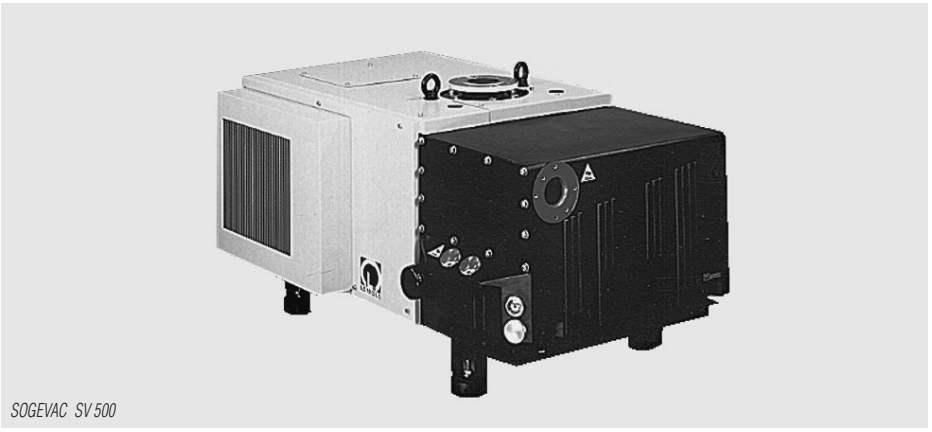
Technical description see Section "General"

Ordering Information	SOGEVAC SV 200		SOGEVAC SV 300	
	50 Hz	60 Hz	50 Hz	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]	**Part No. 109 26**		**Part No. 109 30**	
200 V, 50/60 Hz (JIS)	**Part No. 955 26**		**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]	**Part No. 109 27**		**Part No. 109 31**	
208 - 230/460 V, 60 Hz (NEMA) [400 V, 50 Hz] [2]	**Part No. 950 27**		**Part No. 950 31**	
200 V, 50/60 Hz (JIS)	**Part No. 955 27**		**Part No. 955 37**	
Other voltages/frequencies upon request				
Accessories				
Adaptor for Roots pump [3]				
RUVAC 501 (BR 2)	Part No. 953 90		Part No. 953 90	
RUVAC 1001 (BR 2)	Part No. 953 91		Part No. 953 91	
Oil level monitor [3]	Part No. 953 96		Part No. 953 96	
Thermal switch [3]	Part No. 951 36		Part No. 951 36	
Water cooling kit [3]	Part No. 711 19 180		Part No. 711 19 181	
Exhaust filter gauge, mechanical [3]	Part No. 951 94		Part No. 951 94	
Gas ballast valve, electromagnetic 24 V DC [3]	Part No. 951 31		Part No. 951 31	
Spare parts				
Oil filter	Part No. 710 18 858		Part No. 710 18 858	
Exhaust filter cartridge (4x required)	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	Part No. 714 36 730		Part No. 714 36 740	
Repair kit compl.	Part No. 714 36 190		Part No. 714 36 200	
Pump module compl.	Part No. 714 36 770		Part No. 714 36 780	

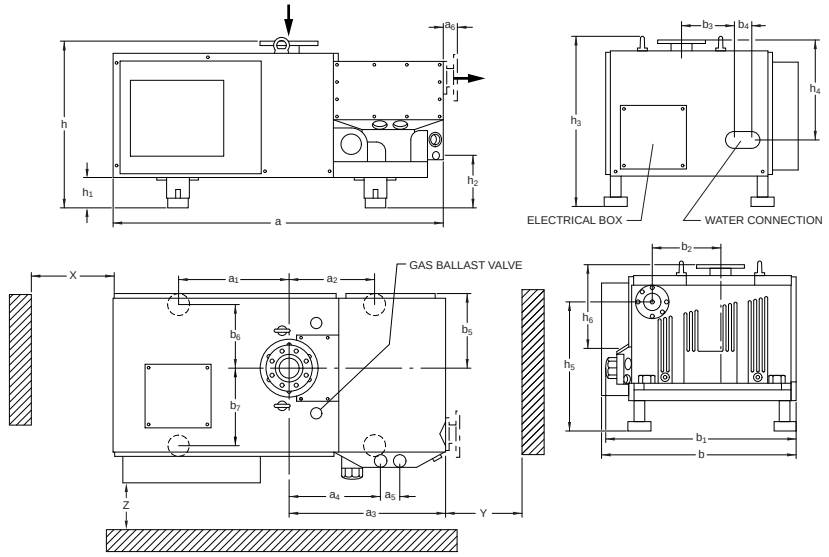
1) European and Japanese pumps have BSP, North and South American versions have NPT
2) CEI motor (Europe) 50/60 Hz has IP 54, NEMA motor has TEFC
3) Please indicate when ordering a pump

Notes

SOGEVAC SV 500

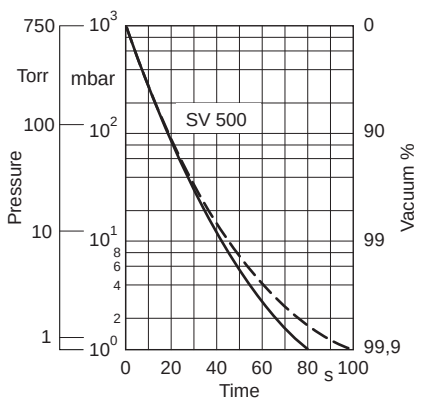


SOGEVAC SV 500

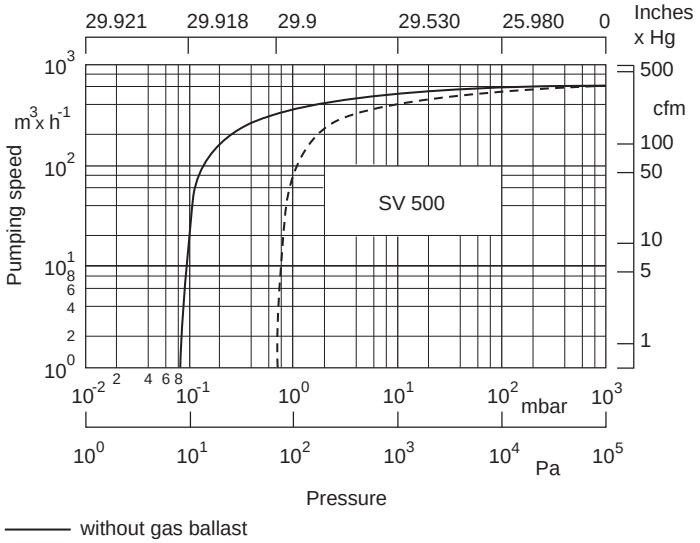


Type		a	a_1	a_2	a_3	a_4	a_5	a_6	b	b_1	b_2	b_3	b_4	b_5	b_6	b_7	h	h_1	h_2	h_3	h_4	X	Y	Z
SV 500	mm	1543	510	400	722	424	90	63	894	878	315	241	80	353	303	372	780	140	240	800	471	> 500	> 500	> 500
	in.	60.75	20.08	15.75	28.43	16.69	3.54	2.48	35.2	34.57	12.4	9.49	3.15	13.9	11.93	14.65	30.71	5.51	9.45	31.5	18.54	> 19.69	> 19.69	> 19.69

Dimensional drawing for the SOGEVAC SV 500



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



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

Technical Data		SOGEVAC SV 500	
		50 Hz	60 Hz
Nominal speed [1]	$m^3 \times h^{-1}$ (cfm)	570 (335.7)	
Pumping speed [1]	$m^3 \times h^{-1}$ (cfm)	510 (300.4)	
Ultimate partial pressure without gas ballast	mbar (Torr)	$\leq 8 \times 10^{-2}$ ($\leq 6 \times 10^{-2}$)	
Gas ballast	Number / base type	1 + (1 option) / manual	
Ultimate total pressure with standard gas ballast	mbar (Torr)	≤ 1 (≤ 0.75)	
Water vapor tolerance			
with 1 gas ballast	mbar (Torr)	40 (30)	
with 2 gas ballast	mbar (Torr)	60 (45)	
Water vapor capacity			
with 1 gas ballast	kg x h^{-1} (qt/hr)	13 (14)	
with 2 gas ballast	kg x h^{-1} (qt/hr)	19 (20)	
Noise level [2]	dB(A)	75	≤ 78
Motor power rated rotational speed	kW (hp) - min^{-1}	11 (15) - 1500	11 (15) - 1800
Mains voltage	V	400 Δ (± 10 %)	230 / 460 (± 10 %)
Type of protection	IP	54 F	54 F / TEFC
Pump rated rotational speed	min^{-1} (rpm)	880	
Thermal switch (pump)		yes	
Oil type / Capacity	l (qt)	GS 77 / 35 (37)	
Weight (with oil filling)	kg (lbs)	630 (1389)	
Cooling		Air (option: water)	
Connection			
Intake	DN	100 PN 10 & 100 ISO-K	4" ANSI 150 - 100 ISO-K
Exhaust	DN	ø 80	4" ANSI 150 - 100 ISO-K
(Option DN 100 PN 10 & 100 ISO-K)			–

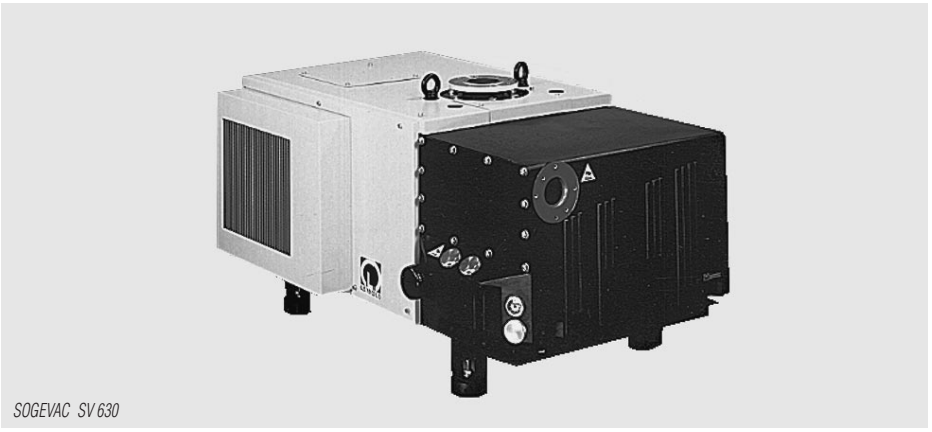
1) according to PNEUROP

2) according to DIN 46 635

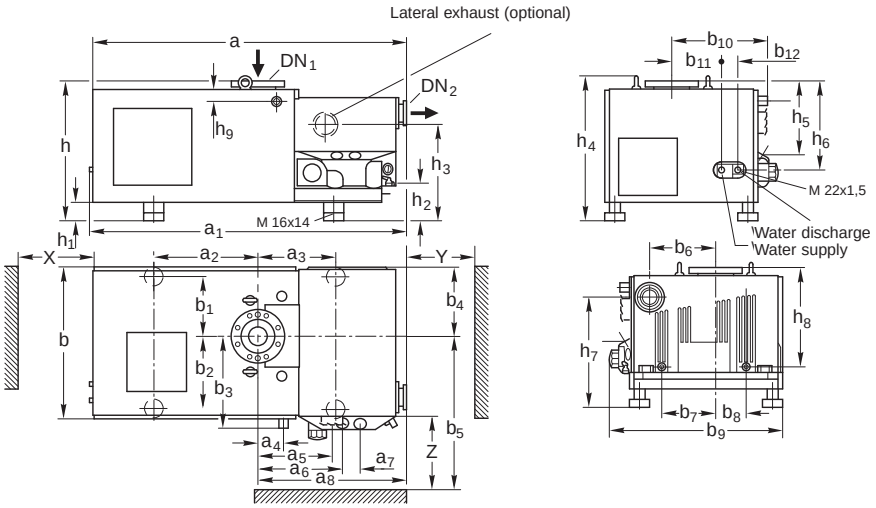
Technical description see Section "General"

Ordering Information	SOGEVAC SV 500
SOGEVAC SV 500	
400 V △, 50 Hz (CEI)	Part No. 956 55
230/460 V, 60 Hz (NEMA)	Part No. 956 57
Other voltages/frequencies upon request	
Accessories	
Adaptor for Roots pump	
RUVAC 1001	Part No. 953 47
RUVAC 2001	Part No. 953 48
Oil drain tap G (BPS) 3/4"	Part No. 714 05 910
Exhaust filter cartridge (8x required)	Part No. 710 64 773
Exhaust kit	Part No. 951 89
Second gas ballast (manual)	Part No. 951 33
Electromagnetic gas ballast 24 V DC	Part No. 951 34
Kit for lateral outlet	Part No. 951 88
OF3000 Oil filtering system	
less element and oil	Part No. 898 625
coated, prepared for PFPE	Part No. 899 450
prepared for PFPE	Part No. 899 455

SOGEVAC SV 630/SV 630 F/SV 750

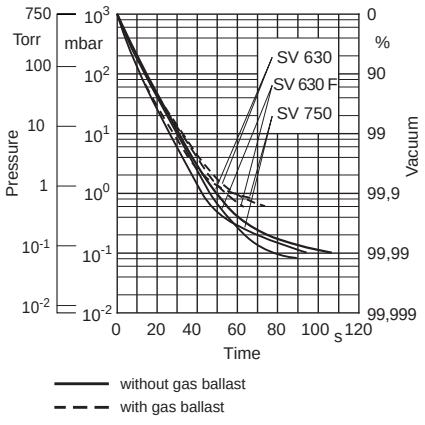


SOGEVAC SV 630

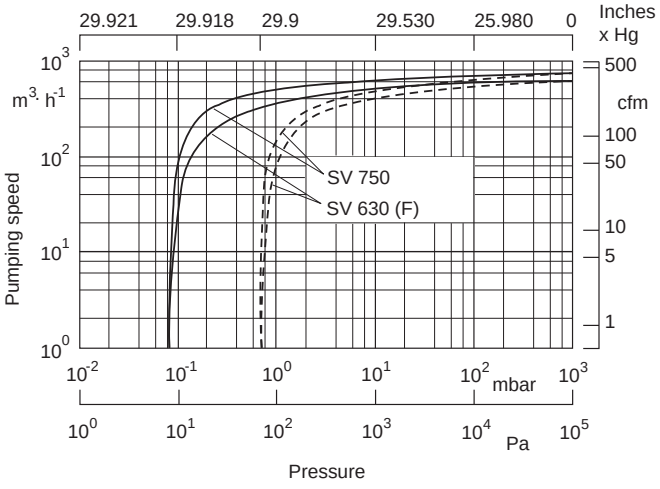


Type		a	a_1	a_2	a_3	a_4	a_5	a_6	a_7	a_8	b	b_1	b_2	b_3	b_4	b_5	b_6	b_7	b_8	b_9	b_{10}	b_{11}	b_{12}	h	h_1	h_2	h_3	h_4	h_5	h_6	h_7	h_8	X	Y	Z
SV 630/750	mm	1606	–	510	400	–	–	424	90	785	880	303	372	–	353	>900	315	255	173	878	–	241	80	780	140	240	–	800	392	471	605	530	>500	>500	>500
	in.	63.23	–	20.08	15.75	–	–	16.69	3.54	30.91	34.65	11.93	14.65	–	13.9	35.43	12.4	10.04	6.81	34.57	–	9.49	3.15	30.71	5.51	9.45	–	31.5	15.43	18.54	23.82	20.87	>19.69	>19.69	>19.69
SV 630 F	mm	1601	1614	510	400	120	369	424	90	785	774	303	372	462	353	>900	315	255	173	878	460	242	80	638	40	140	447	698	351	429	505	488	>500	>500	>500
	in.	63.03	63.54	20.08	15.75	4.72	14.53	16.69	3.54	30.91	30.47	11.93	14.65	18.19	13.9	35.43	12.4	10.04	6.81	34.57	18.11	9.53	3.15	25.12	1.58	5.51	17.6	27.48	13.82	16.89	19.88	19.21	>19.69	>19.69	>19.69

Dimensional drawing for the SOGEVAC SV 630 (F) and SV 750



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



Pumping speed characteristics of the SOGEVAC SV 630 (F) and SV 750 at 50 Hz (60 Hz curves at the end of the section)

Technical Data		SOGEVAC SV 630		SOGEVAC SV 630 F		SOGEVAC SV 750
		50 Hz	60 Hz	50 Hz	60 Hz	50 Hz
Nominal speed [1]	$m^3 \times h^{-1}$ (cfm)	700 (412.3)	840 (494.8)	700 (412.3)	840 (494.8)	840 (494.8)
Pumping speed [1]	$m^3 \times h^{-1}$ (cfm)	640 (377)	755 (444.7)	640 (377)	755 (444.7)	755 (444.7)
Ultimate partial pressure without gas ballast [1]	mbar (Torr)	$< 8 \times 10^{-2}$ ($< 6 \times 10^{-2}$)		$< 8 \times 10^{-2}$ ($< 6 \times 10^{-2}$)		$< 8 \times 10^{-2}$ ($< 6 \times 10^{-2}$)
Ultimate total pressure with standard gas ballast [1]	mbar (Torr)	≤ 0.7 (≤ 0.53)		≤ 0.7 (≤ 0.53)		≤ 0.7 (≤ 0.53)
Gas ballast	Number/ Type	1 (+1 option) / manual		1 (+1 option) / EM 24 VDC		1 (+1 option) / manual
Water vapor tolerance						
with 1 gas ballast	mbar (Torr)	40 (30)	50 (37.5)	25 (18.8)	30 (22.5)	50 (22.5)
with 2 gas ballasts	mbar (Torr)	60 (45)	70 (52.5)	35 (26.3)	40 (30)	70 (30)
Water vapor capacity						
with 1 gas ballast	kg x h^{-1}) (qt/hr)	17 (18)	24 (25)	11 (12)	14 (15)	24 (25)
with 2 gas ballasts	kg x h^{-1}) (qt/hr)	26 (27)	34 (35)	15 (16)	19 (20)	34 (35)
Oil capacity min.	l (qt)	35 (37)		35 (37)		35 (37)
Noise level [2]	dB(A)	≤ 75	≤ 78	≤ 75	≤ 78	≤ 78
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)	12 to 40 (54 to 104)
Motor power	kW (hp)	15 (20)	18.5 (25)	15 (20)	18.5 (25)	18.5 (25)
Nominal motor speed / Pump speed	min^{-1} (rpm)	1500 / 990 (1500 / 990)	1800/1170 (1800/1170)	1500 / 990 (1500 / 990)	1800/1170 (1800/1170)	1500 / 1170 (1500 / 990)
Type of protection	IP	54 - F	54 - F/TEFC [4]	54 - F	54 - F/TEFC [4]	54 - F
Cooling		air (option: water)		water (+ thermostatic valve)		air (option: water)
Weight (with oil filling)	kg (lbs)	630 (1389)		630 (1389)		630 (1389)
Dimensions L x W x H	mm (in.)	1606 x 880 x 800 (63.23 x 34.64 x 31.49)		1601 x 878 x 698 (63.03 x 34.56 x 27.48)		1606 x 880 x 800 (63.23 x 34.64 x 31.49)
Connection, Intake						
EUROPE	DN_1	100 ISO-K + 100 PN 10		160 DIN		100 ISO-K + 100 PN 10
North and South American versions	DN_1	100 ISO-K + 4" ANSI 150		–		–
Exhaust						
EUROPE	DN_1	ø 80		100 ISO-K		ø 80
North and South American versions	DN_1	100 ISO-K + 4" ANSI 150		–		–

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) Optional; please indicate when ordering a pump

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

Technical description see Section "General"

Ordering Information

	SOGEVAC SV 630		SOGEVAC SV 630 F		SOGEVAC SV 750
	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz
SOGEVAC SV 630 [1]					
with three-phase motor, integrated gas ballast valve (manual), air-cooled and over-temperature switch (pump)					
200 V, 50/60 Hz (JIS)	**Part No. 956 62**		–		–
400 △ V, 50 Hz (+10% -6%) and 460 V, 60 Hz (±10%) (CEI)	**Part No. 956 63**		–		–
230/460 V, 60 Hz (NEMA) [400 V, 50 Hz]	**Part No. 956 65**		–		–
SOGEVAC SV 630 F [1]					
with three-phase motor, integrated gas ballast valve (EM 24 V DC), controlled anti-suckback valve (EM 24 V DC), water-cooled and over-temperature switch (pump and motor)					
200 V, 50/60 Hz (JIS)	–		**Part No. 956 66**		–
400 △ V, 50 Hz (+10% -6%) and 460 V, 60 Hz (±10%) (CEI)	–		**Part No. 956 67**		–
230/460 V, 60 Hz (NEMA) [400 V, 50 Hz]	–		**Part No. 956 69**		–
SOGEVAC SV 750 [1]					
with three-phase motor, integrated gas ballast valve (manual), air-cooled and over-temperature switch (pump)					
400 △ V, 50 Hz (±10%) (CEI)	–		–		**Part No. 956 75**
Other voltages/frequencies upon request					
Accessories					
Adaptor for Roots pump [2]					
RUVAC 1001	Part No. 953 47		Part No. 953 47		Part No. 953 47
RUVAC 2001	Part No. 953 48		Standard		Part No. 953 48
OF3000 Oil filtering system					
less element and oil	Part No. 898 625		Part No. 898 625		Part No. 898 625
coated, prepared for PFPE	Part No. 899 450		Part No. 899 450		Part No. 899 450
prepared for PFPE	Part No. 899 455		Part No. 899 455		Part No. 899 455
Oil level monitor [2]	Part No. 953 97		Part No. 953 97		Part No. 953 97
Exhaust filter gauge, mechanical [2]	Part No. 951 95		Part No. 951 95		Part No. 951 95
Water cooling with thermostatic valve [2]	Part No. 956 63 02		Standard		Part No. 956 75 02
Exhaust DN 100 PN 10 - 100 ISO-K (Europe only) [2]	Part No. 951 89		Standard		Part No. 951 89
Intake flange, DN 100 ISO-K [2]	Standard		Part No. 714 03 480		Standard
Lateral exhaust, DN 100 ISO-K [2]	Part No. 951 88				
Spare parts					
Oil filter	Part No. 714 05 318				
Exhaust filter cartridge (10x required)	Part No. 710 64 773				
Vanes, set of 3 pieces	Part No. 714 12 020				
Set of gaskets NBR / FPM (standard)	Part No. 971 97 701				
Set of gaskets FPM	Part No. 714 05 380				
Repair kit compl.	Part No. 714 05 390				
Pump module compl.	Part No. 714 08 510				

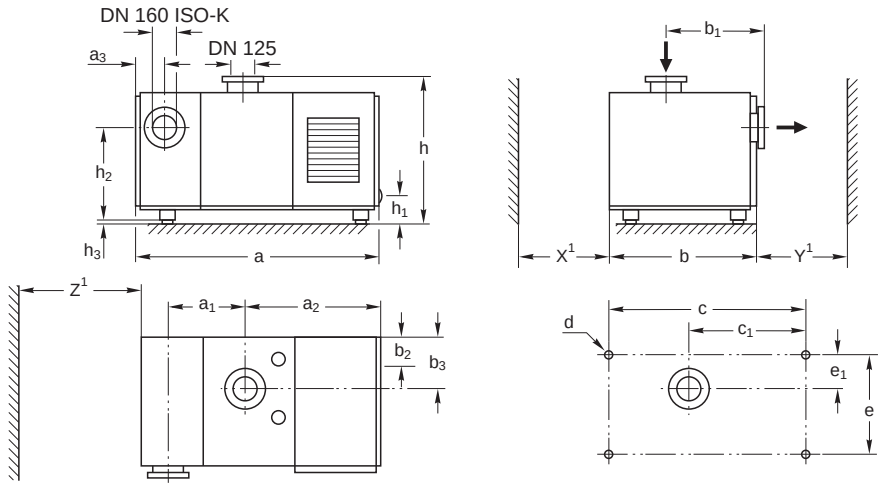
[1] Junction box with 6 terminals for star/delta circuit – SV 750 works only at 50 Hz

[2] Please indicate when ordering a pump

Notes

SOGEVAC SV 1200

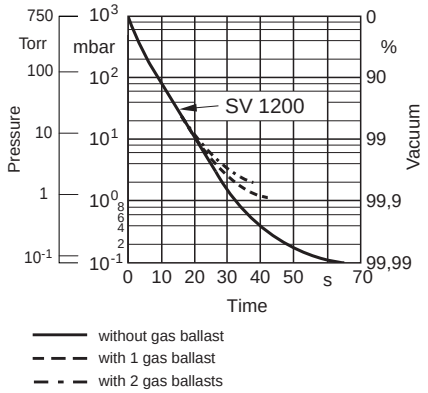
SOGEVAC SV 1200



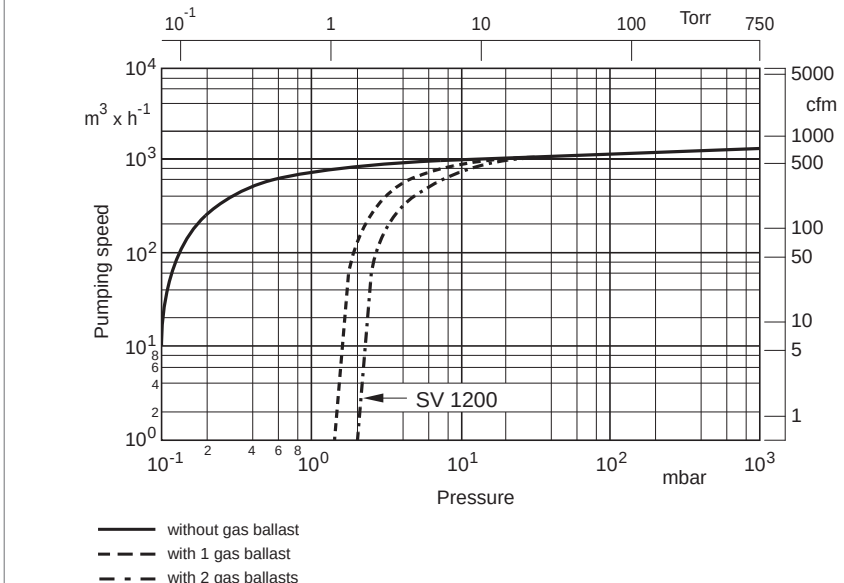
Type		a	a_1	a_2	a_3	b	b_1	b_2	b_3	c	c_1	Ø d	e	e_1	h	h_1	h_2	h_3	X	Y	Z
SV 1200	mm	1660	570	915	185	1005	622	180	380	1345	800	15	80	740	1050	240	675	25	1000	1000	min. 500
	in.	65.35	22.44	36.02	7.28	39.57	24.49	7.09	14.96	52.95	31.5	0.59	3.15	29.13	41.34	9.45	26.57	0.98	39.37	39.37	min. 19.69

Dimensional drawing for the SOGEVAC SV 1200

[1] Clearance for cooling air [2] Clearance for filter exchange



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



Pumping speed characteristics of the SOGEVAC SV 1200 at 50 Hz (60 Hz curves at the end of the section)

Technical Data		SOGEVAC SV 1200	
		50 Hz	60 Hz
Nominal speed [1]	$m^3 \times h^{-1}$ (cfm)	1150 (677)	
Pumping speed [1]	$m^3 \times h^{-1}$ (cfm)	1070 (630)	
Ultimate partial pressure without gas ballast [1]	mbar (Torr)	≤ 0.1 (≤ 0.08)	
Ultimate total pressure			
with standard gas ballast [1]	mbar (Torr)	≤ 1.5 (≤ 1.1)	
with big gas ballast [2]	mbar (Torr)	≤ 2.0 (≤ 1.5)	
Water vapor tolerance			
with 1 gas ballast	mbar (Torr)	20 (15)	
with 2 gas ballasts	mbar (Torr)	40 (30)	
Water vapor capacity			
with 1 gas ballast	$kg \cdot h^{-1}$ (qt/hr)	12.5 (13)	
with 2 gas ballasts	$kg \cdot h^{-1}$ (qt/hr)	25 (26)	
Oil capacity min.	l (qt)	60 (63)	
Noise level [3]	dB(A)	75	78
Admissible ambient temperature	°C (°F)	12 to 40 (54 to 104)	
Motor power	kW (hp)	22 (30)	
Nominal motor speed / Pump speed	min^{-1} (rpm)	1460/700 (1460/700)	1750/700 (1750/700)
Type of protection	IP	54	54-F TEFC [7]
Weight (with oil filling)	kg (lbs)	1370 (3021)	
Dimensions L x W x H	mm (in.)	1660 x 1005 x 1050 (65.35 x 39.57 x 41.34)	
Connection, Intake	DN	125 PN 10	ANSI 150 - 6" [5]
Exhaust	DN	160 ISO-K	ANSI 150 - 6" [5]
Option [6]	DN	125 PN 10	–

Ordering Information	SOGEVAC SV 1200
SOGEVAC SV 1200	
with three-phase motor, integrated gas ballast valves, air-cooled and over-temperature switch	
400 △ V, 50 Hz (CEI) [4]	**Part No. 109 70**
208 - 230/460 V, 60 Hz (NEMA)	**Part No. 950 70**
with three-phase motor, integrated gas ballast valves, water-cooled and over-temperature switch	
400 △ V, 50 Hz (CEI) [4]	**Part No. 109 70 02**
208 - 230/460 V, 60 Hz (NEMA)	**Part No. 950 70 02**
Other voltages/frequencies upon request	
Accessories	
Adaptor for Roots pump [6]	
RUVAC 2001	Part No. 953 37
RUVAC 3001	Part No. 953 38
Oil level monitor [6]	Part No. 953 99
Spare parts	
Oil filter	Part No. 712 14 598
Exhaust filter cartridge (14x required)	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	Part No. 712 36 060
Repair kit compl.	Part No. 712 34 820
Pump module compl.	Part No. 712 26 820

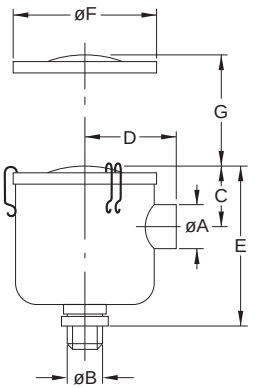
1) To DIN 28 400 and following numbers
2) With 2 gas ballasts
3) Operated at the ultimate pressure without gas ballast, free-field measurement at a distance of 1 m
4) Junction box with 6 terminals for star/delta circuit
5) NEMA (for North and South American versions)
6) Please indicate when ordering a pump
7) CEI motor (Europe) 50/60 Hz has IP 54, NEMA motor has TEFC

Technical description see Section “General”

Dust Filters (Suction Side)

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

Typ		⌀ A	⌀ B	C	D	E	⌀ F	G
F 16-25	mm	G 1/2"	G 1/2"	44	59	101	97	70
	in.	G 1/2"	G 1/2"	1.73	2.32	3.98	3.82	2.76
F 40	mm	G 1 1/4"	G 1 1/4"	48	81	130	136	75
	in.	G 1 1/4"	G 1 1/4"	1.89	3.19	5.12	5.35	2.95
F 65-100	mm	G 1 1/4"	G 1 1/4"	60	98	190	172	130
	in.	G 1 1/4"	G 1 1/4"	2.36	3.86	7.48	6.77	5.12
F 200-300	mm	G 2"	G 2"	116	140	270	200	240
	in.	G 2"	G 2"	4.57	5.51	10.63	7.87	9.45
F 200-300	mm	63 ISO-K	63 ISO-K	181.5	160	341.5	258	240
	in.	63 ISO-K	63 ISO-K	7.15	6.3	13.44	10.16	9.45
F 585	mm	G 3"	G 3"	110	210	234	272	165
	in.	G 3"	G 3"	4.33	8.27	9.21	10.71	6.5
F 630	mm	100 PN 10	100 PN 10	137.5	220	357.5	340	165
	in.	100 PN 10	100 PN 10	5.41	8.46	14.07	13.39	6.5
F 1200	mm	125 PN 10	125 PN 10	270	220	520	292	165
	in.	125 PN 10	125 PN 10	10.63	8.46	20.47	11.5	6.5



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

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 (dust, powders, chips etc.)

Metal Filter Cartridge

- 0.08 mm mesh
- Collects solid particles down to 0.08 mm (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	Paper cartridge	Metal cartridge	Activated charcoal cartridge
Throttling of pumping speed through a clean filter	2 %	1 %	2 %
Efficiency for 1 µm particles	98 %	–	–

Ordering Information

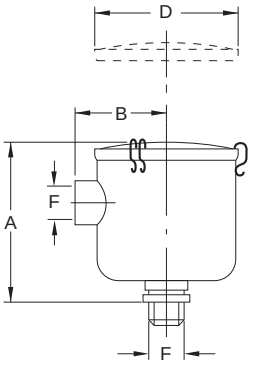
Dust Filter	Paper cartridge	Metal cartridge	Activated charcoal cartridge
F 16-25 for SV 16, SV 25 (G 1/2")	Part No. 951 50	Part No. 711 27 093	Part No. 711 27 092
Spare cartridge for F 16-25	Part No. 710 40 762	Part No. 710 65 813	Part No. 710 65 713
F 40 for SV 40 (G 1 1/4")	Part No. 951 55	Part No. 711 27 103	Part No. 711 27 102
Spare cartridge for F 40	Part No. 710 46 118	Part No. 710 49 083	Part No. 710 49 103
F 65-100 for SV 65, SV 100 (G 1 1/4")	Part No. 951 60	Part No. 711 27 113	Part No. 711 27 112
Spare cartridge for F 65-100	Part No. 712 13 283	Part No. 712 13 324	Part No. 712 13 304
F 200-300 for SV 200, SV 300 (G 2")	Part No. 951 65	Part No. 711 27 123	Part No. 711 27 122
F 200-300 for SV 200, SV 300 (63 ISO-K)	Part No. 951 68	Part No. 711 27 126	Part No. 711 27 125
Spare cartridge for F 200-300 (G 2" or 63 ISO-K)	Part No. 712 13 293	Part No. 712 13 334	Part No. 712 13 314
F 585 for SV 585 (G 3“)	Part No. 951 70	Part No. 711 27 133	Part No. 711 27 132
Spare cartridge for F 585	Part No. 710 35 242	Part No. 710 37 734	Part No. 710 37 724
F 630 for SV 630 (F), SV 750 (DN 100 PN 10)	Part No. 951 71	Part No. 711 27 163	Part No. 711 27 162
F 630 for SV 630 (F), SV 750 (100 ISO-K)	Part No. 951 72	Part No. 711 27 167	Part No. 711 27 166
Spare cartridge for F 630 (DN 100 PN or 100 ISO-K)	Part No. 710 35 242	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 27 143	Part No. 711 27 142
Spare cartridge for F 1200 (2 are required)	Part No. 710 35 242	Part No. 710 37 734	Part No. 710 37 724
Spare parts			
Set of gaskets for F 16-25 NBR	Part No. 714 10 820	Part No. 714 10 820	Part No. 714 10 820
Set of gaskets for F 40 NBR	Part No. 714 10 830	Part No. 714 10 830	Part No. 714 10 830
Set of gaskets for F 65-100 NBR	Part No. 714 10 840	Part No. 714 10 840	Part No. 714 10 840
Set of gaskets for F 200-300 NBR	Part No. 714 10 850	Part No. 714 10 850	Part No. 714 10 850
O-ring gasket for F 630 / F 1200 NBR	Part No. 712 41 032	Part No. 712 41 032	Part No. 712 41 032

Version for the North and South American Continents

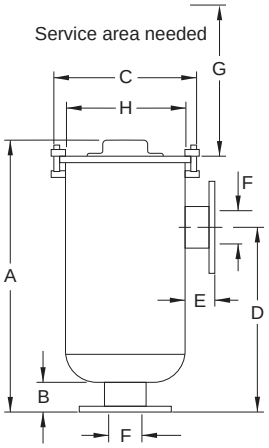
Dust Filters F (Suction Side)

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 ten microns, or activated carbon elements for the adsorption of chemical vapor.



Typ		A	B	ø D	ø F
F-50	mm	111	76	151	1/2 NPT
	inch	4.38	3	15.94	1/2 NPT
F-100	mm	171	107	187	1 1/4 NPT
	inch	6.75	4.19	7.38	1 1/4 NPT
F-200	mm	267	124	222	2 NPT
	inch	10.5	4.88	8.75	2 NPT



Typ		A	B	C	ø D	E	ø F	G	H
F-600	mm	689	76	356	470	76	4" ANSI	381	305
	inch	27.13	3	14	18.5	3	4" ANSI	15	12
F-1200	mm	740	102	483	521	102	6" ANSI	381	406.5
	inch	29.13	4	19	20.5	4	6" ANSI	15	16

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

Technical Data

Dust Filter		Polyester	Metal	Paper	Carbon
New cartridge pressure loses	%	2	1	2	2
Efficiency for 10 micron particulates	%	98	–	98	–
Filter for SV 16, SV 25, UV 25		–	–	F-50	–
Filter for SV 40, SV 65, SV 100		–	F-100	F-100	F-100
Filter for SV 200, 300		–	F-200	F-200	F-200
Filter for SV 500, 630		F-600	–	–	–
Filter for SV 1200		F-1200	–	–	–

Ordering Information

Dust Filter	Polyester	Metal	Paper	Carbon
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 Condensate Traps

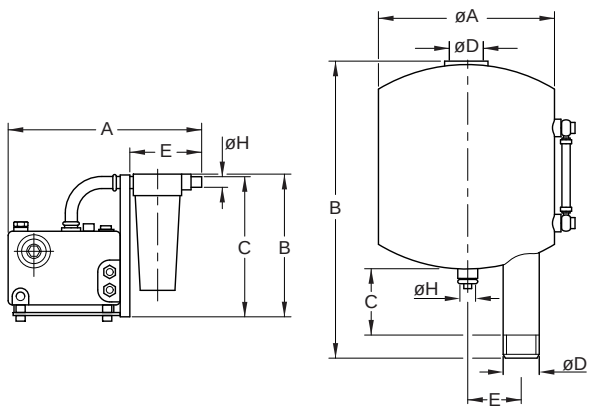
SOGEVAC SV 40 with SL 40 condensate trap

The SL 16-25 condensate trap consists of a steel separator whereas the collection vessel is made of transparent plastic.

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

Advantages to the User

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



Type		ø A	B	C	ø D	E	ø F	ø G	ø J	ø H
SL 40	mm	200	350	100	G 1 1/4"	60	-	-	-	G 3/8"
	in.	7.87	13.78	3.94	G 1 1/4"	2.36	-	-	-	G 3/8"
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	880	210	G 3"	300	9	600	514	G 1 1/4"
	in.	21.65	34.65	8.27	G 3"	11.81	0.35	23.62	20.24	G 1 1/4"
SL 1200	mm	550	880	210	G 4"	300	9	600	514	G 1 1/4"
	in.	21.65	34.65	8.27	G 4"	11.81	0.35	23.62	20.24	G 1 1/4"

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

Technical Notes

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

Technical Data

Condensate Trap		SL 16-25	SL 40	SL 65-100	SL 200-300	SL 630	SL 1200
For pump	SOGEVAC SV	16/25	40	65/100	200/300	500/630/750	630/750/1200
Condensate capacity	l (qt)	2 (2.1)	4 (4.2)	16 (16.9)	40 (42.3)	80 (84.6)	80 (84.6)
Weight	kg (lbs)	3.5 (7.7)	5 (11)	11 (24.3)	17 (37.5)	58 (127.9)	59 (130.1)

Ordering Information

Condensate Trap		SL 16-25	SL 40	SL 65-100	SL 200-300	SL 630	SL 1200
Condensate trap	Part No.	951 38	951 40	951 42	951 44	951 47	951 48
Drain cock	Part No.	–	711 30 111	711 30 113	711 30 113	711 30 105	711 30 105
Double spigot for drain cock	Part No.	–	–	–	–	711 18 033	711 18 033

Version for the North and South American Continents

Technical Data

Condensate Trap		SL 16-25	SL 40	SL 65-100	SL 200-300	SL 630	SL 1200
For pump	SOGEVAC SV	16/25 + UV 25	40	65/100	200/300	500/630/750	630/750/1200
Condensate capacity	l (qt)	2 (2.1)	4 (4.2)	16 (16.9)	40 (42.3)	80 (84.6)	80 (84.6)
Weight	kg (lbs)	3.5 (7.7)	5 (11)	11 (24.3)	17 (37.5)	58 (127.9)	59 (130.1)

Ordering Information

Condensate Trap		SL 16-25	SL 40	SL 65-100	SL 200-300	SL 630	SL 1200
Condensate trap	Part No.	951 38 (BSP)	951 41 (NPT)	951 43 (NPT)	951 45 (NPT)	951 47 (BSP)	951 48 (BSP)
Drain cock	Part No.	–	711 30 111	711 30 113	711 30 113	711 30 105	711 30 105
Double spigot for drain cock	Part No.	–	–	–	–	711 18 033	711 18 033

SEP Separators and SEPC Condensers

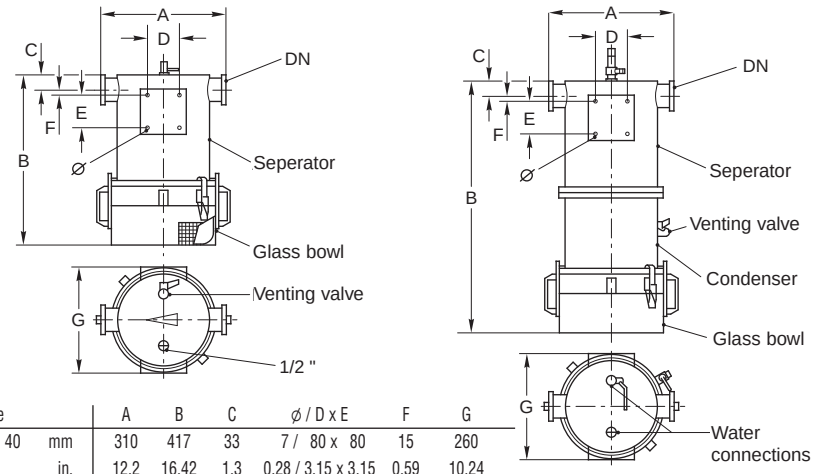
The separators from the SEP and the condensers from the SEPC range have been designed to be integrated in the vacuum circuit. They are employed in all those cases where the pumped gases may contain liquid drops (SEP), condensable vapors (SEPC) or solid particles which may impair proper operation of the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



Type		A	B	C	Ø / D x E	F	G
SEP 40	mm	310	417	33	7 / 80 x 80	15	260
	in.	12.2	16.42	1.3	0.28 / 3.15 x 3.15	0.59	10.24
SEP 63	mm	400	567	50	11 / 110 x 110	20	350
	in.	15.75	22.32	1.97	0.43 / 4.33 x 4.33	0.79	13.78
SEP 100	mm	480	624	65	11 / 110 x 110	20	460
	in.	18.9	24.57	2.56	0.43 / 4.33 x 4.33	0.79	18.11
SEPC 40	mm	310	700	33	7 / 80 x 80	15	260
	in.	12.2	27.56	1.3	0.28 / 3.15 x 3.15	0.59	10.24
SEPC 63	mm	400	835	50	11 / 110 x 110	20	350
	in.	15.75	32.87	1.97	0.43 / 4.33 x 4.33	0.79	13.78
SEPC 100	mm	480	900	65	11 / 110 x 110	20	460
	in.	18.9	35.43	2.56	0.43 / 4.33 x 4.33	0.79	18.11

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

Technical Data

Separator		**SEP 40**	**SEP 63**	**SEP 100**	**–**	**–**	**–**
Condenser		**–**	**–**	**–**	**SEPC 40**	**SEPC 63**	**SEPC 100**
For pump	**SOGEVAC SV**	**40/65/100**	**200/300**	**630/750**	**40/65/100**	**200/300**	**630/750**
Connection flange	**DN**	**40 KF**	**63 ISO-K**	**100 ISO-K**	**40 KF**	**63 ISO-K**	**100 ISO-K**
Capacity of the bowl	**l (qt)**	**6 (6.3)**	**12 (12.7)**	**12 (12.7)**	**6 (6.3)**	**12 (12.7)**	**12 (12.7)**
Condensation area	**m^2**	**–**	**–**	**–**	**2.5**	**5**	**5**
Condensation capacity [1]	**l/h**	**–**	**–**	**–**	**10**	**20**	**20**
For water [2]	**l/h**	**–**	**–**	**–**	**1500**	**3000**	**3000**
Water connection dia.	**mm (in.)**	**–**	**–**	**–**	**19 (0.75)**	**19 (0.75)**	**19 (0.75)**
Weight	**kg (lbs)**	**15 (33.1)**	**20 (44.1)**	**40 (88.2)**	**30 (66.2)**	**40 (88.2)**	**65 (143.3)**

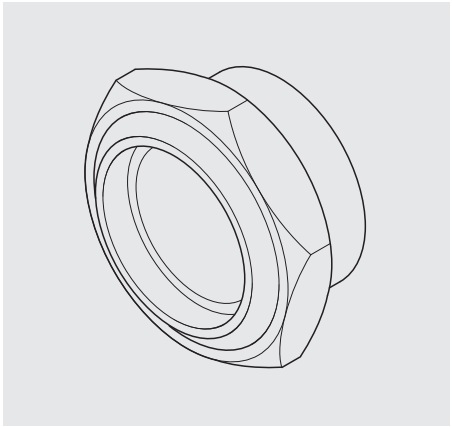
Ordering Information

Separator		**SEP 40**	**SEP 63**	**SEP 100**	**–**	**–**	**–**
Condenser		**–**	**–**	**–**	**SEPC 40**	**SEPC 63**	**SEPC 100**
Steel design	**Part No.**	**953 54**	**953 56**	**953 60**	**953 64**	**953 66**	**953 68**
Stainless steel design	**Part No.**	**953 55**	**953 57**	**953 61**	**953 65**	**953 67**	**953 69**
Support	**Part No.**	**712 43 380**					

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

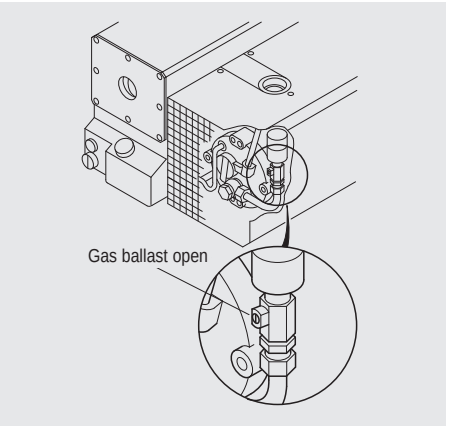
[2] Cooling water at a supply temperature of 10 °C (50 °F) and a discharge temperature < 15 °C (< 59 °F)

Special Oil Sight Glass



The special oil sight glass may be used instead of the standard one. It is equipped with a glass window and may be installed when wanting to pump aggressive gases or vapors.

Gas Ballast Valve



The pumps SOGEVAC SV 16, SV 25, SV 630 (F) and SV 750 are equipped as standard with a gas ballast.

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

Pumps SV 40 to SV 300 may be ordered either with or without gas ballast valve.

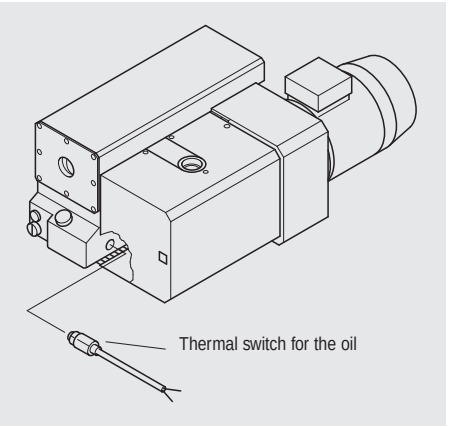
The gas ballast valve may also be retrofitted to the SV 40 to SV 300.

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 built into the oil circuit. 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:
250 V AC, 50 Hz - 10 A
125 V AC, 50 Hz - 12 A
30 V DC - 5 A

The SV 630 (F), SV 750 and SV 1200 are as standard with this thermal switch.

Ordering Information

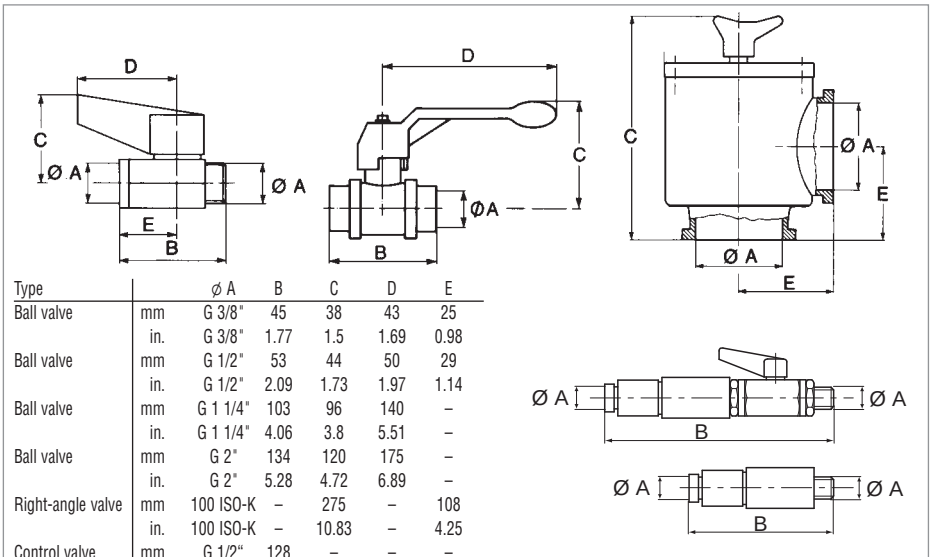
SOGEVAC	SV 16/25	SV 40	SV 65	SV 100	SV 200 [1, 2)]	SV 300 [1, 2)]	SV 630/750 [1, 2)]	SV 630 F [1, 2)]	SV 1200
Gas ballast valve (standard)	integrated	Part No. 951 26	Part No. 951 26	Part No. 951 27	Part No. 951 29	Part No. 951 29	integrated (manual)	integrated (24 V DC)	integrated
Thermal switch	–	Part No. [2)] 711 19 111	Part No. [2)] 711 19 111	Part No. [2)] 711 19 111	Part No. [2)] 951 36	Part No. [2)] 951 36	integrated	integrated	integrated
Special oil sight glass	–	Part No. 712 19 488	Part No. 712 19 488	Part No. 712 19 488	Part No. 712 19 488	Part No. 712 19 488	integrated	integrated	integrated
Oil level monitor	Part No. 711 19 108	Part No. 711 19 108 [2)]	Part No. 711 19 108 [2)]	Part No. 711 19 108 [2)]	Part No. 953 96	Part No. 953 96	Part No. 953 97	Part No. 953 97	Part No. 953 99
Gas ballast, big	–	Part No. 196 60	Part No. 196 60	Part No. 951 32	Part No. 951 30	Part No. 951 30	–	–	–
Gas ballast, with EM 24 V DC valve	–	Part No. 951 23	Part No. 951 23	Part No. 951 28	Part No. 951 31	Part No. 951 31	Part No. 951 34	standard	upon request [2)]

1) Second gas ballast possible. Contact LEYBOLD

2) Please state when ordering the pump

Ball Valves and Valves

Ball valve 1 1/4"



Type		ø A	B	C	D	E
Ball valve	mm	G 3/8"	45	38	43	25
	in.	G 3/8"	1.77	1.5	1.69	0.98
Ball valve	mm	G 1/2"	53	44	50	29
	in.	G 1/2"	2.09	1.73	1.97	1.14
Ball valve	mm	G 1 1/4"	103	96	140	–
	in.	G 1 1/4"	4.06	3.8	5.51	–
Ball valve	mm	G 2"	134	120	175	–
	in.	G 2"	5.28	4.72	6.89	–
Right-angle valve	mm	100 ISO-K	–	275	–	108
	in.	100 ISO-K	–	10.83	–	4.25
Control valve	mm	G 1/2"	128	–	–	–
	in.	G 1/2"	5.04	–	–	–
Control valve with blocking valve	mm	G 1/2"	175	–	–	–
	in.	G 1/2"	6.89	–	–	–

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

Advantages to the User

- Leak rate ≤ 1 x 10^{-6} mbar x l x s^{-1} (≤ 0.75 x 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 x 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”.

Materials

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.

Technical Data

Type	Ball valve	Ball valve	Ball valve	Ball valve	Right-angle valve	Control valve	Control valve with blocking valve
Connection	F/M 3/8" BSP	F/M 1/2" BSP	F/F 1 1/4" BSP	F/F 2" BSP	DN 100 ISO-K	F/M 1/2" BSP	F/M 1/2" BSP
Weight kg (lbs)	0.12 (0.3)	0.15 (0.33)	1.24 (2.7)	3.22 (7.1)	8.0 (17.6)	0.135 (0.3)	0.369 (0.81)

Ordering Information

Type	Ball valve	Ball valve	Ball valve	Ball valve	Right-angle valve	Control valve	Control valve with blocking valve
Part No.	711 30 111	711 30 113	711 30 105	711 30 107	711 30 116	951 86	951 87

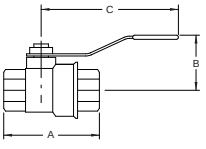
Version for the North and South American Continents

Technical Data

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

Ordering Information

Type	BV50	BV100	BV200
Part No.	899 810	899 800	899 801



Type	A	B	C
BV50			
mm	54	41	102
in.	2.13	1.63	4
BV100			
mm	102	67	140
in.	4	2.63	5.5
BV200			
mm	140	78	140
in.	5.5	3.06	5.5

Dimensional drawings for the ball valves BV

Version for the North and South American Continents

OF3000 Oil Filtering System for SOGEVAC SV 500, SV 630 and SV 630 F

OF3000

The OF3000 is a compact, highly mobile filtering system designed for use with mechanical pumps in applications generating large volumes of heavy particulate filtration.

A positive feed gear pump and check valve assembly protect against excessive backpressure in the canister should the filter element become clogged. Flexible hoses and matched dripless connectors ensure easy maneuverability of the OF3000's rollaround cart, while also eliminating the possibility of oil spills.

Operation

Contaminated oil is removed from the drain location on the vacuum pump and is cycled to the element assembly. Clean oil is subsequently circulated back to the oil fill port of the vacuum pump.

The tangential flow inlet port to the oil filter canister allows full oil flow while utilizing the entire filter capability of the element. This translates into longer filter life, fewer element changes, and less oil loss.

Similarly, chemically severe OF3000 models have proven successful in aluminum etching and other processes where boron tricloride and other highly toxic gases are employed. the canister, gear pump, fittings and quick disconnects of the corrosive-service model have been specially treated with a fluorocarbon material that subtantially increases the life of these components.

Advantages to the User

- Compact, mobile design
- Choice of five filter elements
- Dripless quick disconnects for easy removal and replacement of filter elements
- No spillage - recessed lid and oil level
- Conductive teflon hoses for static charge dissipation
- Integral gear pump with built-in bypass
- Pressure gauge
- Oil sight glass
- Single phase 50/60 Hz motor standard
- Tangential flow inlets - improves oil flow
- Canister drain valve

Filtering Elements

Fullers Earth - Provides high capacity for standard acids and can be used to trap particulates down to 10 micron size.

Hydrophylic - Effective for hydrolized acids and particulates as low as one micron.

Activated Alumina - Effective on Lewis acids and polar compounds. Can be used to trap particulates down to 10 microns.

Particulate (Paper) - Suitable for particulate removal down to 10 microns.

Particulate (Fiberglass) - Suitable for particulate removal down to 10 microns.

Version for the North and South American Continents

Technical Data		OF3000
Gear pump motor		1/6 HP, 115/208/220 V,single phase, 50/60 Hz, wired for 115 V, with on/off switch
Gear pump		0.7 gpm @ 1800 rpm
Pressure gauge		0 to 100 psig (0 to 70 kPa)
Fluid capacity (approx.)	gal	3
Flexible hoses	in. I.D.	78 teflon/carbon black with stainless steel braid - 6 ft lenghts
Dimensions	in. (mm)	18 x 14 x 26 (457 x 355 x 661)
Weight (dry)	lbs (kg)	65 (29.4)

Ordering Information	OF3000
OF3000, less element and oil (standard)	Part No. 898 625
OF3000C, coated, prepared for PFPE	Part No. 899 450
OF3000, prepared for PFPE	Part No. 899 455
Accessories	
Aluminum oxide	Part No. 898 523
Hydrophilic	Part No. 898 525
Fullers earth	Part No. 99 171 159
Particulate (paper)	Part No. 898 599
Particulate (fiberglass)	Part No. 99 171 158

Version for the North and South American Continents

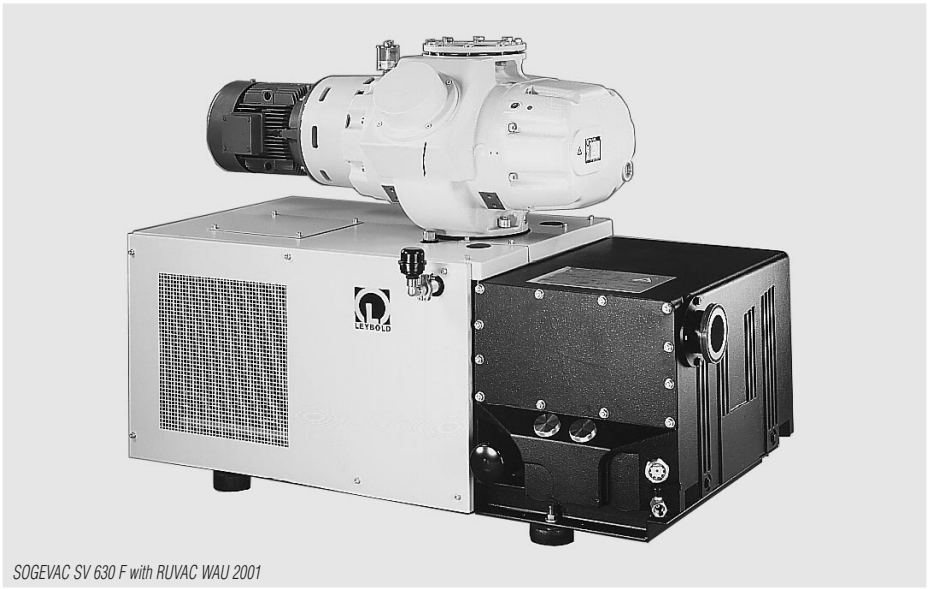
Other Accessories

External Carbon Exhaust Filters

An external type spin-on filter made of activated carbon on a polxester 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 perferred vertical mounting. SV 16/25 requires nipple only.

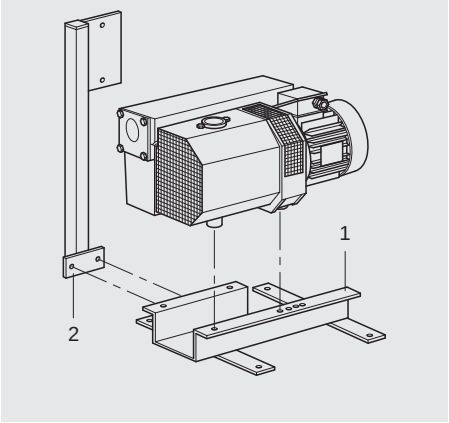
Model	Fits Pump Models	Thread Size	Part No.	Replacement Element
SVXCXF 50	SV 16/25/UV 25	1/2" NPTF	899 502	899 503
SVXCXF 100	SV 40/65	1 1/2" NPTF	899 500	899 501
SVXCXF 200	SV 100/200/300	2" NPTF	899 498	899 499

Mounting Accessories



SOGEVAC SV 630 F with RUVAC WAU 2001

SOGEVAC SV 300 with RUVAC WAU 501



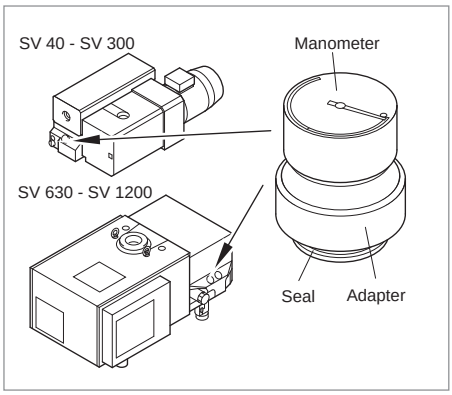
Installation accessories are available for the SOGEVAC 40 to SV 300.

The base frame (1) simplifies installation of the pump in systems and also simplifies any maintenance work. The bracket for electrical connections (2) is attached to the base frame; the solenoid control system is attached to this bracket.

Ordering Information

SOGEVAC	SV 40	SV 65	SV 100	SV 200	SV 300
Base frame	Part No. 711 19 203	Part No. 711 19 203	Part No. 711 19 205	Part No. 711 19 208	Part No. 711 19 208
Oil drain cock 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 19 223	Part No. 711 19 223	Part No. 711 19 223	Part No. 711 19 226	Part No. 711 19 226
Base frame for Roots installation	not possible	not possible	Part No. 711 19 204	Part No. 711 19 209	Part No. 711 19 209

Exhaust Filter Gauge



The manometer (40 mm dia.), glued in the adapter, will replace the oil filling plug. Dial has 2 colors:

green: 1000 < P < 1450 mbar abs.
(< 1087.5 Torr abs.)
Exhaust filter OK

red: P > 1450 mbar abs.
(> 1087.5 Torr abs.)
Exhaust filter clogged

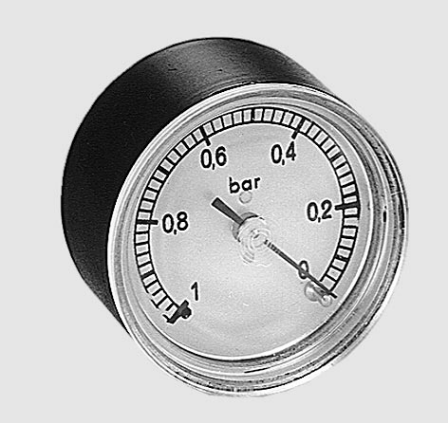
Technical Information

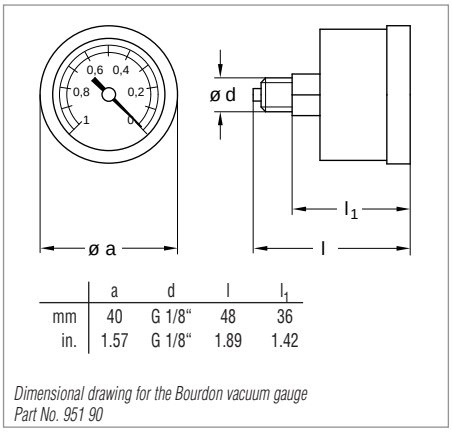
Indication of the manometer is only valid when the pump has reached its working temperature.

Ordering Information

For pump	SOGEVAC	SV 16/25	SV 40 to SV 300	SV 585 to SV 1200
Manometer (with adapter and seal)	Part No.	951 91	951 94	951 95

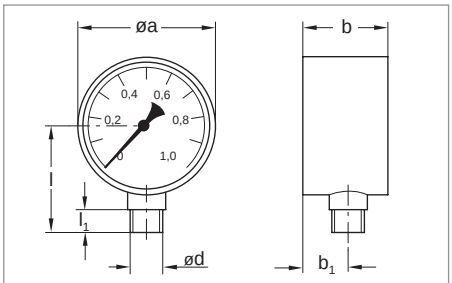
Bourdon Vacuum Gauges





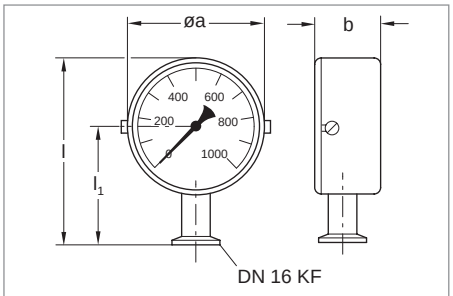
	a	d	l	l_1
mm	40	G 1/8"	48	36
in.	1.57	G 1/8"	1.89	1.42

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



	a	b	b_1	d	l	l_1
mm	90	55	30	G 1/8"	70	15
in.	3.54	2.17	1.18	G 1/8"	2.76	0.59

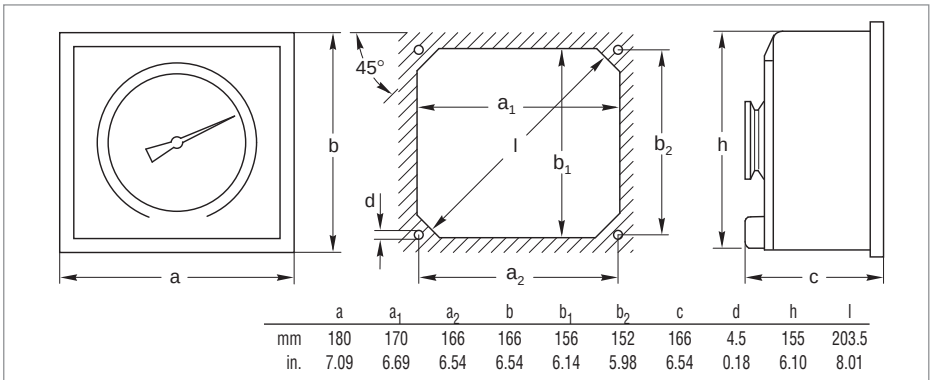
Dimensional drawing for the Bourdon vacuum gauge Part No. 951 92



	a	b	l	l_1
mm	80	36	105	64
in.	3.15	1.42	4.13	2.52

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

DIAVAC DV 1000 (1)



	a	a_1	a_2	b	b_1	b_2	c	d	h	l
mm	180	170	166	166	156	152	166	4.5	155	203.5
in.	7.09	6.69	6.54	6.54	6.14	5.98	6.54	0.18	6.10	8.01

Dimensional drawing and panel cut-out for the DIAVAC DV 1000

Advantages to the User

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

Technical Data

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 KF	DN 40 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

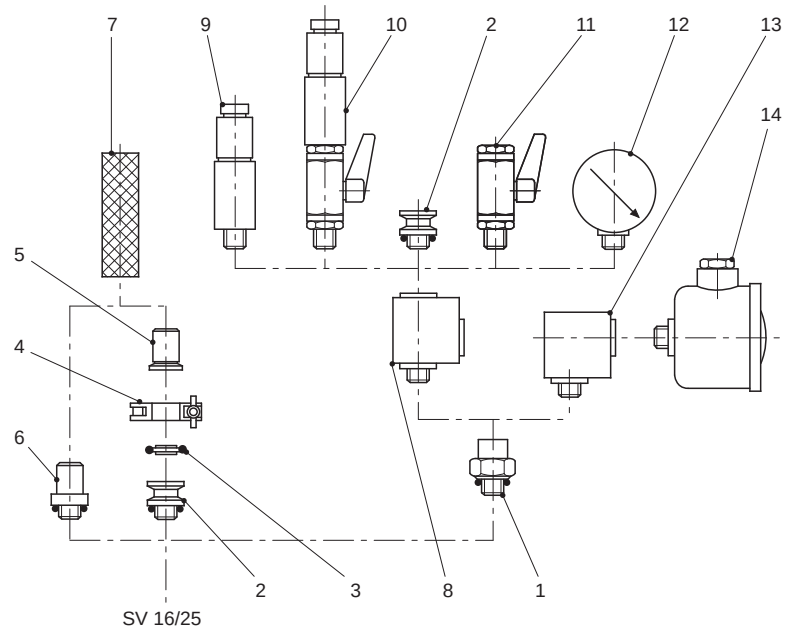
Ordering Information

Bourdon vacuum gauge	**Part No. 951 90**	**Part No. 951 92**	**Part No. 160 40**	**Part No. 160 67**

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

Further information on other vacuum gauges (1) is provided in Product Section C16 "Total Pressure Gauges"

Connection Fittings for SOGEVAC SV 16, SV 25 and UV 25



Connection fittings for SOGEVAC SV 16 and SV 25

The fittings presented have been specially matched to the SOGEVAC pumps. We recommend to use only these or other components from LEYBOLD for connecting SOGEVAC pumps, so as not to impair the pumping speed of the pumps or the leak tightness of the system.

More information on further fittings is provided in Product Section C13 "Vacuum Fittings and Feedthroughs".

Technical Data and Ordering Information

Item	Description	Connection	Material	SV 16, SV 25
1	Screw coupling	M/F 1/2" BSP	Al	Part No. 711 18 020
2	Threaded flange adaptor [1]	M 1/2" BSP – DN 16 KF	Al, anodized	Part No. 711 18 120
3	Centering ring [1]	DN 16 KF	Al	Part No. 183 26
4	Clamping ring	DN 10/16 KF	Al	Part No. 183 41
5	Hose connection	DN 16 KF – DN 25 mm	Al, anodized	Part No. 711 18 300
6	Hose connection [1]	M 1/2" BSP – DN 25 mm	Al, anodized	Part No. 711 18 011
7	PVC tubing	Ø 25 mm, 1 m long	PVC	Part No. 711 18 323
8	Tee piece	M/F/F 1/2" BSP	Al, anodized	Part No. 711 18 250
9	Vacuum control valve	M 1/2" BSP	Brass/Al	Part No. 951 86
10	Vacuum control valve with blocking valve	M 1/2" BSP	Brass, nickeled/Al	Part No. 951 87
11	Ball valve	M/F 1/2" BSP	Brass, nickeled	Part No. 711 30 113
		M/F 1/2" NPTF	Brass, nickeled	Part No. 899 810
12	Bourdon vacuum gauge	M 1/2" BSP		Part No. 951 92
13	Elbow 90°	M/F 1/2" BSP	Al, anodized	Part No. 711 18 210
14	Dust filter [2]			
	with paper cartridge	M/F 1/2" BSP		Part No. 951 50
		M/F 1/2" NPT		Part No. 899 460
	with activated charcoal cartridge	M/F 1/2" BSP		Part No. 711 27 092
	with metal cartridge	M/F 1/2" BSP		Part No. 711 27 093

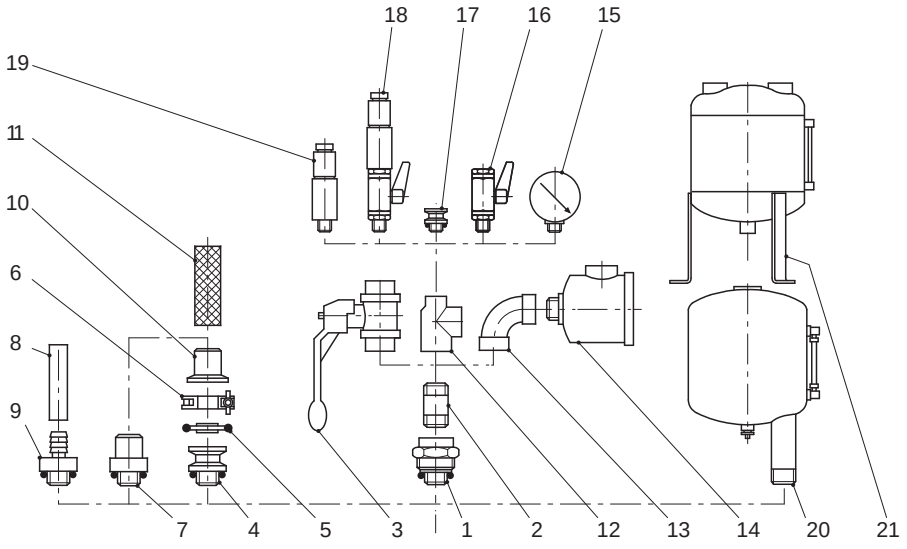
[1] With NBR-O-Ring

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

M = Outside thread

F = Inside thread

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



Connection fittings for SOGEVAC SV 40 to SV 100

Technical Data and Ordering Information

Item	Description	Connection	Material	SV 40	SV 65	SV 100
1	Screw coupling [1]	M/F 1 1/4" BSP	Al, NBR	Part No. 711 18 023	Part No. 711 18 023	Part No. 711 18 023
2	Double nipple	M/M 1 1/4" BSP	Steel	Part No. 711 18 033	Part No. 711 18 033	Part No. 711 18 033
3	Ball valve	F/F 1 1/4" BSP	Brass, nickeled	Part No. 711 30 105	Part No. 711 30 105	Part No. 711 30 105
4	Threaded flange adaptor [1]	M 1 1/4" BSP – DN 40 KF	Al, anodized	Part No. 711 18 123	Part No. 711 18 123	Part No. 711 18 123
5	Centering ring	DN 40 KF	Al	Part No. 183 28	Part No. 183 28	Part No. 183 28
6	Clamping ring	DN 32/40 KF	Al	Part No. 183 43	Part No. 183 43	Part No. 183 43
7	Hose connection [1]	M 1 1/4" BSP / DN 40 mm	Al, anodized	Part No. 711 18 013	Part No. 711 18 013	Part No. 711 18 013
8	Rubber hose	ø 10 x 25 mm, 1 m long		Part No. 172 03	Part No. 172 03	Part No. 172 03
9	Hose connection [1]	M 1 1/4" BSP – DN 10	Al, anodized	Part No. 711 18 153	Part No. 711 18 153	Part No. 711 18 153
10	Hose connection	DN 40 KF/DN 40 mm	Al, anodized	Part No. 711 18 303	Part No. 711 18 303	Part No. 711 18 303
11	PVC tubing	ø 40 mm, 1 m long		Part No. 711 18 324	Part No. 711 18 324	Part No. 711 18 324
12	Tee reducer bush	F/F/F 1 1/4" – 1 1/4" – 1/2" BSP	Gray cast iron	Part No. 711 18 263	Part No. 711 18 263	Part No. 711 18 263
13	Elbow 90°	F/F 1 1/4" BSP	Gray cast iron	Part No. 711 18 213	Part No. 711 18 213	Part No. 711 18 213
14	Dust filter [2]	M/F 1 1/4" BSP				
	with paper cartridge			Part No. 951 55	Part No. 951 60	Part No. 951 60
	with activated charcoal cartridge			Part No. 711 27 102	Part No. 711 27 112	Part No. 711 27 112
	with metal cartridge			Part No. 711 27 103	Part No. 711 27 113	Part No. 711 27 113
15	Bourdon vacuum gauge	M 1/2" BSP		Part No. 951 92	Part No. 951 92	Part No. 951 92
16	Ball valve	M/F 1/2" BSP	Brass, nickeled	Part No. 711 30 113	Part No. 711 30 113	Part No. 711 30 113
17	Threaded flange adaptor [1]	M 1/2" BSP – DN 16 KF	Al, anodized	Part No. 711 18 120	Part No. 711 18 120	Part No. 711 18 120
18	Vacuum control valve					
	with blocking valve	M 1/2" BSP	Brass, nickeled/Al	Part No. 951 87	Part No. 951 87	Part No. 951 87
19	Vacuum control valve	M 1/2" BSP	Brass, nickeled/Al	Part No. 951 86	Part No. 951 86	Part No. 951 86
20	Condensate trap	M/F 1 1/4" – 1 1/4" – 3/8" BSP		Part No. 951 40	–	–
21	Condensate trap	F/F/F 1 1/4" – 1 1/4" – 1/2" BSP		–	Part No. 951 42	Part No. 951 42

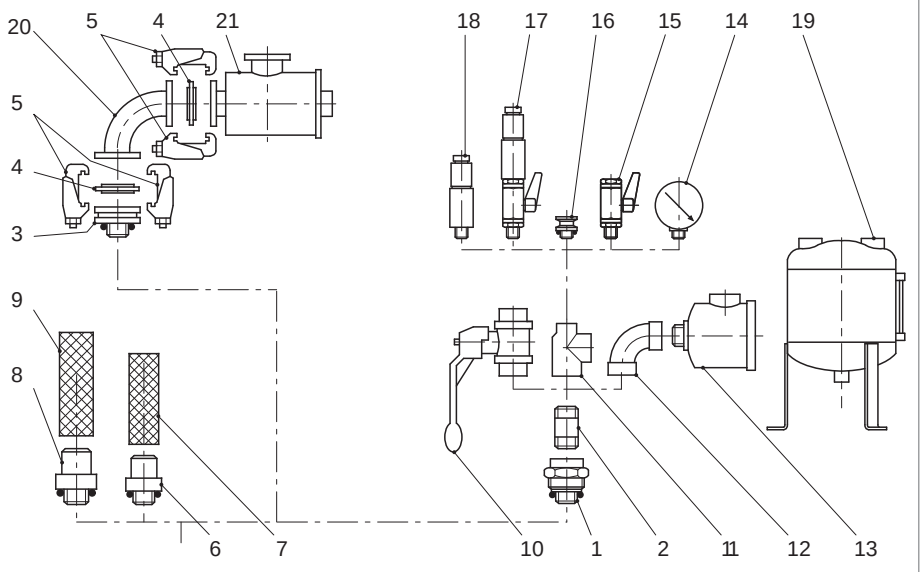
[1] incl. O-ring

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

M = Outside thread

F = Inside thread

Connection Fittings for SOGEVAC SV 200 and SV 300



Connection fittings for SOGEVAC SV 200 and SV 300

Technical Data and Ordering Information

Item	Description	Connection	Material	SV 200 und SV 300
1	Screw coupling [1]	M/F 2" BSP	Al, anodized	Part No. 711 18 025
2	Double nipple	M/M 2"BSP – 150 mm	Steel	Part No. 711 18 035
3	Threaded flange adaptor [1]	M 2" BSP – DN 63 ISO-K	Steel, zinc coated	Part No. 711 18 126
4	Centering ring with outer ring [1]	DN 63 ISO-K	Al, CR	Part No. 268 05
5	Set of clamping screws DN ISO-K (4 pieces)	M10 x 24	Steel, zinc coated	Part No. 267 01
6	Hose connection [1]	M 2" BSP – DN 50 mm	Al, anodized	Part No. 711 18 015
7	PVC tubing	ø 50 mm, 1 m long	PVC	Part No. 711 18 325
8	Hose connection [1]	M 2" BSP – DN 60 mm	Al, anodized	Part No. 711 18 016
9	PVC tubing	ø 60 mm, 1 m long		Part No. 711 18 326
10	Ball valve	F/F 2" BSP	Brass, nickeled	Part No. 711 30 107
11	Tee reducer	F/F/F 2" – 2" – 1/2" BSP	Gray cast iron	Part No. 711 18 265
12	Elbow 90°	F/F 2" BSP	Gray cast iron	Part No. 711 18 215
13	Dust filter [2]	M/F 2" BSP		
	with paper cartridge			Part No. 951 65
	with activated charcoal cartridge			Part No. 711 27 122
	with metal cartridge			Part No. 711 27 123
14	Bourdon vacuum gauge	M 1/2" BSP		Part No. 951 92
15	Ball valve	M/F 1/2" BSP	Brass, nickeled/Al	Part No. 711 30 113
16	Threaded KF small-flange adaptor [1]	M 1/2" BSP – DN 16 KF	Al, anodized	Part No. 711 18 120
17	Vacuum control valve with blocking valve	M 1/2" BSP	Brass, nickeled/Al	Part No. 951 87
18	Vacuum control valve	M 1/2" BSP	Brass, nickeled/Al	Part No. 951 86
19	Condensate trap	F/F/F 2" – 2" – 1/2" BSP		Part No. 951 44
20	Elbow 90°	DN 63 ISO-K	Stainless steel	Part No. 887 25
21	Dust filter with paper cartridge	DN 63 ISO-K		Part No. 951 68

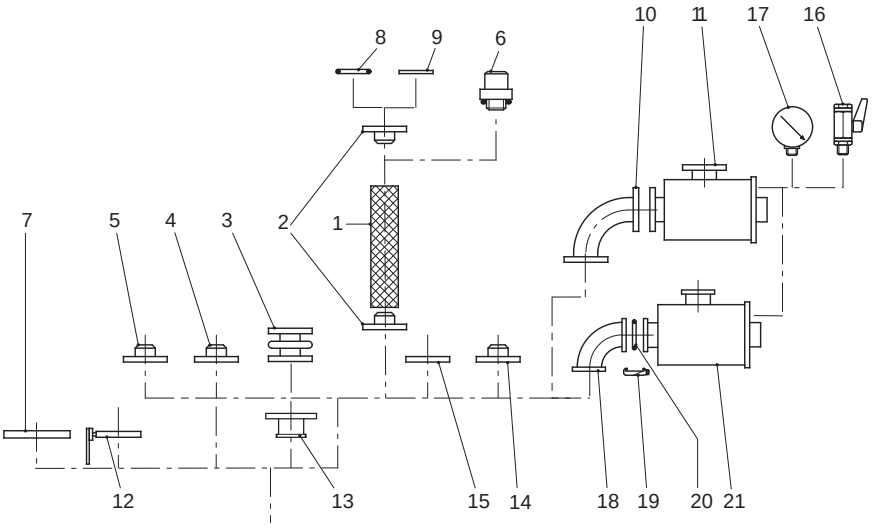
[1] incl. O-ring

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

M = Outside thread

F = Inside thread

Connection Fittings for SOGEVAC SV 500, SV 630, SV 630 F and SV 750



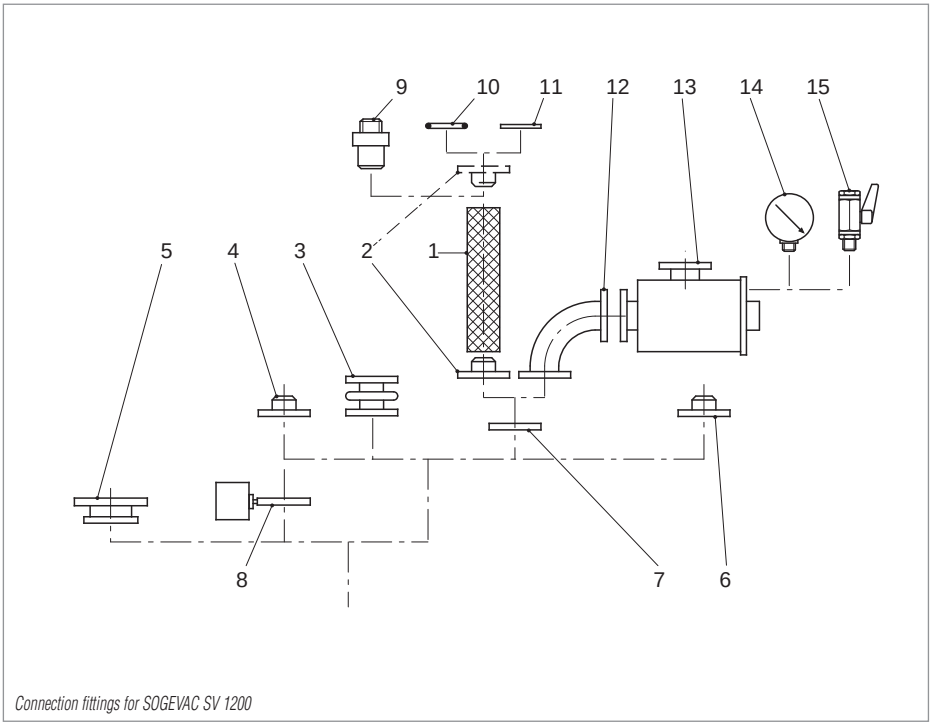
Connection fittings for SOGEVAC SV 630, SV 630 F and SV 750

Technical Data and Ordering Information

Item	Description	Connection	Material	SV 630, SV 630 F and SV 750
1	PVC tubing	ø 90 mm, 1 m long		Part No. 711 18 329
2	Hose connection	DN 100 PN 10 – DN 90 mm	Steel	Part No. 711 18 362
3	Coupling	DN 100 – PN 10	Stainless steel/Al/Rubber	Part No. 711 18 342
4	Adaptor flange	DN 100 PN 10 – F G 4" BSP	Steel	Part No. 711 18 372
5	Adaptor flange	DN 100 PN 10 – F G 3" BSP	Steel	Part No. 711 18 370
6	Hose connection	M G 4" BSP – DN 90	Steel/NBR	Part No. 711 18 017
7	Roots adaptor	RUVAC 1001	Steel/NBR	Part No. 953 47
	Roots adaptor	RUVAC 2001	Steel/FPM	Part No. 953 48
8	O-ring	ø 110 x 5	NBR	Part No. 712 42 882
9	Centering ring with O-ring	DN 100 PN 10 – DN 100 ISO-K	Al/NBR	Part No. 711 18 391
10	Elbow 90°	DN 100 PN 10	Steel	Part No. 711 18 284
11	Dust filter F 630 [1]	DN 100 PN 10		
	with paper cartridge			Part No. 951 71
	with activated charcoal cartridge			Part No. 711 27 162
	with metal cartridge			Part No. 711 27 163
12	Manual valve	DN 100 PN 10	Gray cast iron	Part No. 711 30 116
13	Adaptor	DN 100 PN 10 – 100 ISO-K	Al	Part No. 711 18 336
14	Adaptor flange with tubulation	DN 100 PN 10 (Tube ø 108)	Steel	Part No. 711 18 351
15	Collar flange	DN 100 PN 10 – DN 100 ISO-K	Steel	Part No. 711 18 383
16	Ball valve	M/F G 1/2" BSP	Brass, nickeled/Al	Part No. 711 30 113
17	Bourdon vacuum gauge	M G 1/2" BSP		Part No. 951 92
18	Elbow 90°	DN 100 ISO-K	Stainless steel	Part No. 887 26
19	Set of clamps for DN ISO-K	M 10 x 24	Steel, zinc coated	Part No. 267 01
	Set = 4 pieces			
20	Centering ring [2]	DN 100 ISO-K	Al/CR	Part No. 268 06
21	Dust filter [1]	DN 100 ISO-K		
	with paper cartridge			Part No. 951 72
	with activated charcoal cartridge			Part No. 711 27 166
	with metal cartridge			Part No. 711 27 167
	Screwset (not drawn)	DN 100 PN 10	Steel, zinc coated	Part No. 714 12 440
	Set = 8 Screws and 8 nuts			

M = Outside thread F = Inside thread [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 and Ordering Information

Item	Description	Connection	Material	SV 1200
1	PVC tubing	ø 90 mm, 1 m long	PVC	Part No. 711 18 329
2	Hose connection	DN 125 PN 10 – DN 90 mm	Steel	Part No. 711 18 363
3	Kupplung	DN 125 PN 10	Stainless steel/Al/Rubber	Part No. 711 18 343
4	Flange with tubulation [1]	DN 125 (Tube 139,7)	Steel	Part No. 712 28 863
5	Roots adaptor	RUVAC 2001	Steel	Part No. 953 37
6	Adaptor flange	DN 125 PN 10 – F G 4" BSP	Steel	Part No. 711 18 117
7	Collar flange	DN 125 PN 10 – DN 160 ISO-K	Steel	Part No. 711 18 386
8	Electro-pneumatic valve	DN 125 PN 10	Gray cast iron	Part No. 715 69 202
9	Hose connection	M G 4" BSP – DN 90 mm	Steel/NBR	Part No. 711 18 017
10	O-ring			
		165 x 5	NBR	Part No. 712 42 902
		165 x 5	FPM	Part No. 712 42 912
11	Centering ring [1]	DN 125 PN 10 – DN 160 ISO-K	Al	Part No. 711 18 396
12	Elbow 90°	DN 125 PN 10	Steel	Part No. 711 18 287
13	Dust filter [2]	DN 125 PN 10		
	with paper cartridge			Part No. 951 75
	with activated charcoal cartridge			Part No. 711 27 142
	with metal cartridge			Part No. 711 27 143
14	Bourdon vacuum gauge	M G 1/2" BSP		Part No. 951 92
15	Ball valve	M/F G 1/2" BSP	Brass, nickeled/Al	Part No. 711 30 113

[1] incl. O-ring

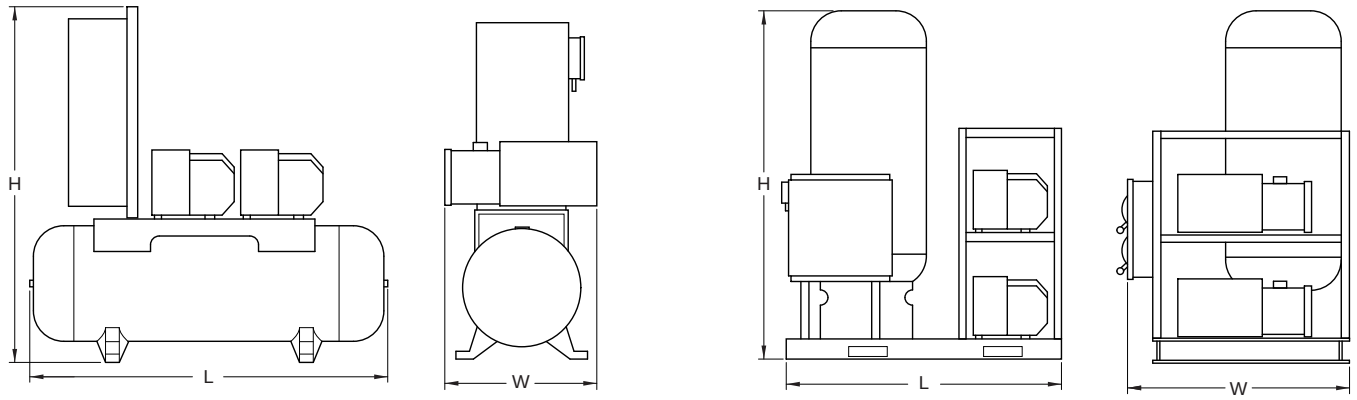
[2] See “Dust Filters F (Suction Side)” for other options

M = Outside thread

F = Inside thread

Version for the North and South American Continents

Central Vacuum Systems



Pump model	Tank size (gal)	L	W	H
Tank mount - simplex				
SV 16, UV 25	30	42 (1067)	20 (508)	51 (1295)
SV 40, SV 65	60	50 (1270)	25 (635)	48 (1219)
SV 100	80	65 (1651)	25 (635)	56 (1422)
SV 200, SV 300	120	70 (1778)	28 (711)	58 (1473)
Tank mount - duplex				
SV 16, UV 25	60	50 (1270)	27 (686)	53 (1346)
SV 40, SV 65	80	65 (1651)	30 (762)	53 (1346)
SV 100	120	71 (1803)	32 (813)	53 (1346)
SV 200	240	84 (2134)	38 (965)	64 (1626)
SV 300	240	84 (2134)	43 (1092)	64 (1626)
Stack mount - duplex and triplex				
SV 16, UV 25	60	45 (1143)	38 (965)	56 (1422)
SV 40	80	49 (1245)	42 (1067)	56 (1422)
SV 65	120	62 (1575)	45 (1143)	88 (2235)
SV 100	120	68 (1727)	42 (1067)	88 (2235)
SV 200	200	68 (1727)	50 (1270)	91 (1626)
SV 300	200	68 (1727)	58 (1473)	91 (1626)

Central vacuum systems, tank mounted (left) and stack mounted (right)

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

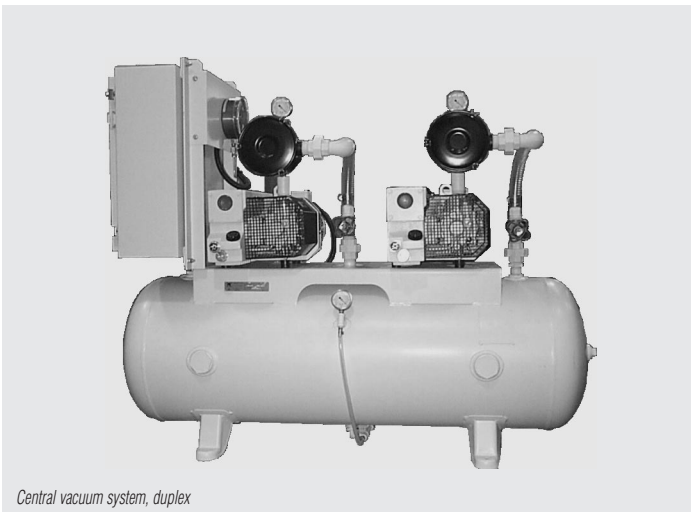
- Tank or stack mounted pumps
- Larger receiver tank
- Special inlet filters
- Automatic isolation valves
- Special design controls per customer specification.

Version for the North and South American Continents

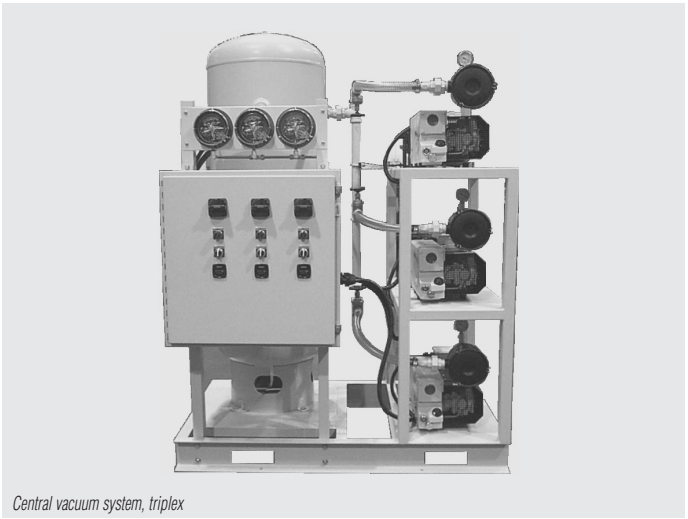
Central Vacuum Systems

Technical Data		Performance Characteristics						
		SV 16	UV 25	SV 40	SV 65	SV 100	SV 200	SV 300
Free air displacement	cfm ($m^3 \times h^{-1}$)	11 (18.6)	17.7 (30)	32.4 (55)	45.9 (77.9)	70.6 (119.8)	129.5 (219.8)	200.3 (340)
Actual pumping speed	cfm ($m^3 \times h^{-1}$)	10 (16.9)	15.3 (26)	28.3 (48)	37.7 (64)	66.5 (112.9)	117.8 (200)	170.8 (289.9)
Guaranteed base pressure	in HgVac	29.89	29.89	29.89	29.89	29.89	< 29.99	< 29.99
Base pressure with gas ballast	in HgVac	29.80	29.80	29.80	29.80	29.80	< 29.90	< 29.90
Water vapor tolerance	in HgVac	29.01	29.01	28.74	28.74	28.74	28.80	28.80
Water vapor pumping with gas ballast	qt/hr	0.5	0.5	0.73	1.3	2.1	5.7	7.8
Noise level at 3 feet with 1 pump running without gas ballast	dB(A)	58	59	64	65	72	73	74
Motor	hp	1	1.5	2	3	5	7.5	10
Pump rotational speed	rpm	1750	1750	1750	1750	1750	1750	1750
Oil capacity	qt	2	2	2	2.5	3.75	5.5	9
Inlet / exhaust-NPT	in.	1/2 / 1/2	1/2 / 3/4	1-1/4 / 1-1/4	1-1/4 / 1-1/4	1-1/4 / 2	2 / 2	2 / 2
Pump weight	lbs	50.7	83.8	90.4	103.4	213.4	341.8	430.0

Central vacuum system, simplex



Central vacuum system, duplex



Central vacuum system, triplex

Version for the North and South American Continents

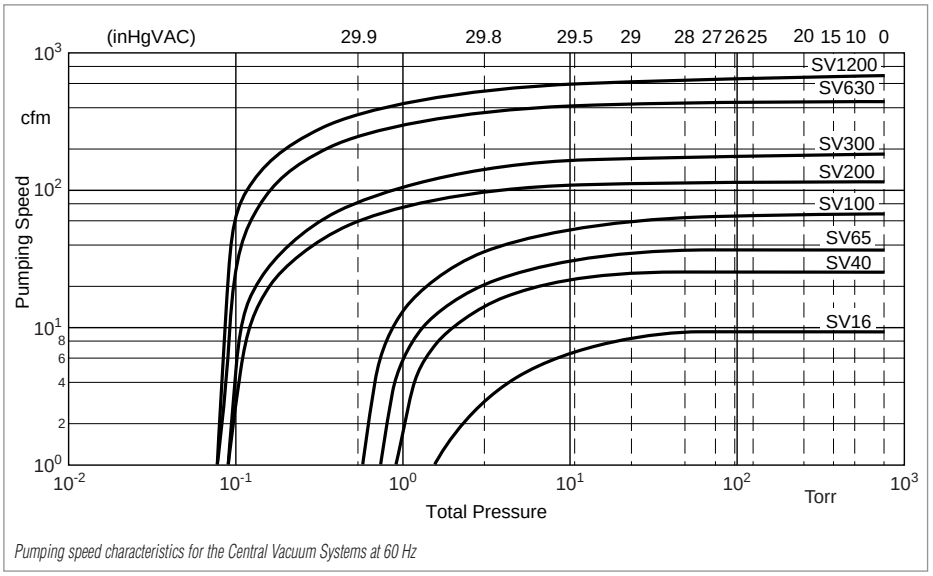
Central Vacuum Systems

Technical Data		Tank Mount Simplex	Tank Mount Duplex	Stack Mount Duplex and Simplex
SV 16, UV 25	Tank size (gal)	30	60	60
SV 40	Tank size (gal)	60	80	80
SV 65	Tank size (gal)	60	120	120
SV 100	Tank size (gal)	80	120	120
SV 200	Tank size (gal)	120	240	200
SV 300	Tank size (gal)	120	240	200

Ordering Information

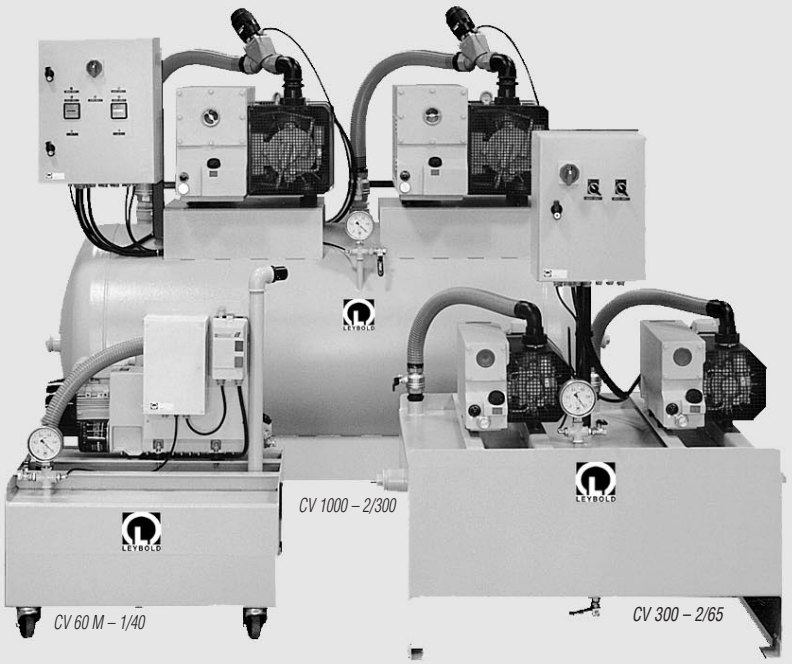
Part No. C – _ _ _ _ _ XX

System	
Simplex	S
Duplex	D
Triplex	T
Pumps	
SV 16 (1 hp)	016
UV 25 (1.5 hp)	025
SV 40 (2 hp)	040
SV 65 (3 hp)	065
SV 100 (5 hp)	100
SV 200 (7 hp)	200
SV 300 (10 hp)	300
Mounting	
Tank mount	T
Stack mount	S
Voltage	
460/3/60	A
230/3/60	B
230/1/60 (available for SV 16/UV 25 only)	C
208/3/60	D
115/1/60 (available for SV 16/UV 25 only)	E
Duty	
Continuous	C
Demant Start/Stop	D



Pumping speed characteristics for the Central Vacuum Systems at 60 Hz

Central Vacuum Systems



Description

Independently of the properties of the gases which are to be pumped, central vacuum systems are defined according to the following engineering requirements:

- Operating pressure
- Quantity of gas to be pumped
- Duration of the pumping cycle
- Choice of control system

Many Combinations

- Modular system
- Pumps having pumping speeds from 16 to 1200 m^3/h (9.4 to 706.8 cfm)
- Backup volumes from 30 to 1500 l (larger buffer volumes upon request)
- Very short delivery time (due to the modular system)

Contact us for further information.

Advantages to the User

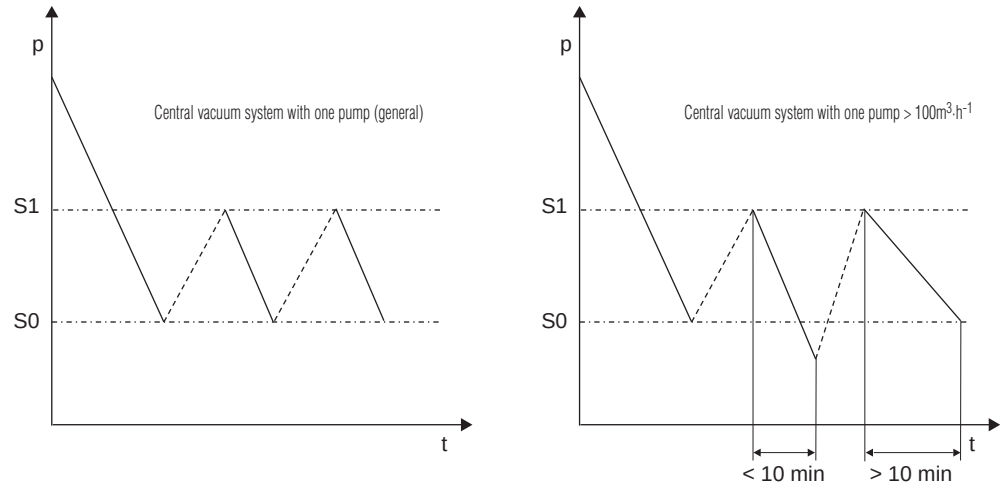
- Two different types of control
- Pressure control between two adjustable pressures for central systems with one or two pumps
- Changeover and safety unit for two or three pumps
- Simple process-independent set-up
- Operating hours counter for each pump

Mobile vacuum station CV 30-LABO for laboratories

Technical Data and Ordering Information

Central type	Vessel size l (qt)	Nominal pumping speed $m^3 \times s^{-1}$	Connection BSP	Mains voltage at 50 Hz V	Required Power kW (hp)	Part No.
Central Vacuum System with 1 Pump and Basic Control						
60M – 1 x 25	60 (63.42)	25	1 1/4"	230, 1~	0.75 (1)	**954 00**
60 – 1 x 25	60 (63.42)	25	1 1/4"	400, 3~	0.75 (1)	**954 01**
60M – 1 x 40	60 (63.42)	40	1 1/4"	230, 1~	1.1 (1.5)	**954 02**
60 – 1 x 40	60 (63.42)	40	1 1/4"	400, 3~	1.1 (1.5)	**954 03**
60M – 1 x 65	60 (63.42)	65	1 1/4"	230, 1~	1.5 (2)	**954 04**
60 – 1 x 65	60 (63.42)	65	1 1/4"	400, 3~	1.5 (2)	**954 05**
150 – 1 x 40	150 (158.56)	40	1 1/4"	400, 3~	1.1 (1.5)	**954 06**
150 – 1 x 65	150 (158.56)	65	1 1/4"	400, 3~	1.5 (2)	**954 07**
300 – 1 x 40	300 (317.12)	40	2"	400, 3~	1.1 (1.5)	**954 08**
300 – 1 x 65	300 (317.12)	65	2"	400, 3~	1.5 (2)	**954 09**
300 – 1 x 100	300 (317.12)	100	2"	400, 3~	2.5 (3.4)	**954 10**
500 – 1 x 40	500 (528.54)	40	2"	400, 3~	1.1 (1.5)	**954 11**
500 – 1 x 65	500 (528.54)	65	2"	400, 3~	1.5 (2)	**954 12**
500 – 1 x 100	500 (528.54)	100	2"	400, 3~	2.5 (3.4)	**954 13**
500 – 1 x 200	500 (528.54)	200	2"	400, 3~	4 (5.4)	**954 14**
500 – 1 x 300	500 (528.54)	300	2"	400, 3~	5.5 (7.5)	**954 15**
750 – 1 x 100	750 (792.81)	100	2"	400, 3~	2.5 (3.4)	**954 16**
750 – 1 x 200	750 (792.81)	200	2"	400, 3~	4 (5.4)	**954 17**
750 – 1 x 300	750 (792.81)	300	2"	400, 3~	5.5 (7.5)	**954 18**
1000 – 1 x 100	1000 (1057.08)	100	2"	400, 3~	2.5 (3.4)	**954 19**
1000 – 1 x 200	1000 (1057.08)	200	2"	400, 3~	4 (5.4)	**954 20**
1000 – 1 x 300	1000 (1057.08)	300	2"	400, 3~	5.5 (7.5)	**954 21**
Central Vacuum System with 2 Pumps and Basic Control						
150 – 2 x 40	150 (158.56)	80	1 1/4"	400, 3~	2.2 (3)	**954 52**
150 – 2 x 65	150 (158.56)	130	1 1/4"	400, 3~	3 (4.1)	**954 53**
300 – 2 x 40	300 (317.12)	80	1 1/4"	400, 3~	2.2 (3)	**954 54**
300 – 2 x 65	300 (317.12)	130	1 1/4"	400, 3~	3 (4.1)	**954 55**
300 – 2 x 100	300 (317.12)	200	1 1/4"	400, 3~	5 (6.8)	**954 56**
500 – 2 x 40	500 (528.54)	80	2"	400, 3~	2.2 (3)	**954 57**
500 – 2 x 65	500 (528.54)	130	2"	400, 3~	3 (4.1)	**954 58**
500 – 2 x 100	500 (528.54)	200	2"	400, 3~	5 (6.8)	**954 59**
500 – 2 x 200	500 (528.54)	360	2"	400, 3~	8 (10.9)	**954 60**
750 – 2 x 100	750 (792.81)	200	2"	400, 3~	5 (6.8)	**954 61**
750 – 2 x 200	750 (792.81)	360	2"	400, 3~	8 (10.9)	**954 62**
750 – 2 x 300	750 (792.81)	560	2"	400, 3~	11 (15)	**954 63**
1000 – 2 x 100	1000 (1057.08)	200	2"	400, 3~	5 (6.8)	**954 64**
1000 – 2 x 200	1000 (1057.08)	360	2"	400, 3~	8 (10.9)	**954 65**
1000 – 2 x 300	1000 (1057.08)	560	2"	400, 3~	11 (15)	**954 66**
Central Vacuum System with 2 Pumps and Changeover and Safety Unit						
150 – 2 x 40 MAS	150 (158.56)	40 / 80	1 1/4"	400, 3~	2.2 (3)	**954 77**
150 – 2 x 65 MAS	150 (158.56)	65 / 130	1 1/4"	400, 3~	3 (4.1)	**954 78**
300 – 2 x 40 MAS	300 (317.12)	40 / 80	1 1/4"	400, 3~	2.2 (3)	**954 79**
300 – 2 x 65 MAS	300 (317.12)	65 / 130	1 1/4"	400, 3~	3 (4.1)	**954 80**
300 – 2 x 100 MAS	300 (317.12)	100 / 200	1 1/4"	400, 3~	5 (6.8)	**954 81**
500 – 2 x 40 MAS	500 (528.54)	40 / 80	2"	400, 3~	2.2 (3)	**954 82**
500 – 2 x 65 MAS	500 (528.54)	65 / 130	2"	400, 3~	3 (4.1)	**954 83**
500 – 2 x 100 MAS	500 (528.54)	100 / 200	2"	400, 3~	5 (6.8)	**954 84**
500 – 2 x 200 MAS	500 (528.54)	180 / 360	2"	400, 3~	8 (10.9)	**954 85**
750 – 2 x 100 MAS	750 (792.81)	100 / 200	2"	400, 3~	5 (6.8)	**954 86**
750 – 2 x 200 MAS	750 (792.81)	180 / 360	2"	400, 3~	8 (10.9)	**954 87**
750 – 2 x 300 MAS	750 (792.81)	280 / 560	2"	400, 3~	11 (15)	**954 88**
1000 – 2 x 100 MAS	1000 (1057.08)	100 / 200	2"	400, 3~	5 (6.8)	**954 89**
1000 – 2 x 200 MAS	1000 (1057.08)	180 / 360	2"	400, 3~	8 (10.9)	**954 90**
1000 – 2 x 300 MAS	1000 (1057.08)	280 / 560	2"	400, 3~	11 (15)	**954 91**

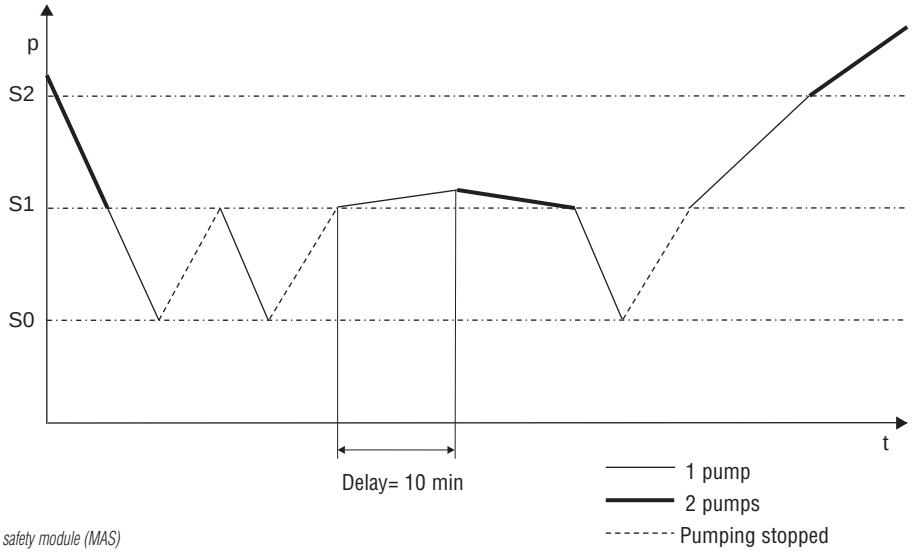
Control Principles for Central Vacuum Systems



Central vacuum system with basic controller

Central Vacuum System with Basic Controller

The basic controller is controlled through 2 freely selectable switching thresholds. The controller drives the vacuum pump or a valve. In the case of pumps with pumping speeds over 100 m^3/h (58.9 cfm)the switching frequency is either restricted to 6 times per hour or they are controlled by a valve.



Central vacuum system with switching and safety module (MAS)

Central Vacuum System with Switching and Safety Module

This controller has 3 switching thresholds and is for 2 pumps running in parallel. At peak demand both pumps, and during normal demand only one pump will be running. After pre-defined intervals the pumps will change so as to evenly spread the number of operating hours across both pumps.

Vacuum Pump Oils

Lubricating oils for rotary vacuum pumps need to fulfil demanding requirements. Their vapor pressure must be low also at high temperatures, water content and water uptake must be minimal. Their viscosity characteristics need to be flat, lubricating properties need to be excellent and they must resist cracking upon being mechanically stressed.

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.

We therefore recommend the exclusive use of vacuum pump oils fully qualified by Leybold so as to ensure optimum performance of the Leybold vacuum pumps and also to ensure optimum oil change intervals.

Under vacuum conditions lubricating oils may behave quite differently than expected. 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.

For these reasons please understand that we must make our warranty commitment dependent on the use of oils which have been qualified by us. Damages caused by the use of not suitably qualified lubricating oils are not covered by our warranty.

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 a defined compound but rather consist of a complex mixture of compounds. The way in which the mineral oil is pre-treated and its composition are decisive as to the applications it will be suited. 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 adequate in the majority of applications. They offer a high degree of compatibility with elastomers and resistance to hydrolysis.

Synthetic oils

Synthetic oils are produced by a chemical reaction. 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 atoms (O). 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. Leybold NC1/14 has the approval of BAM (Federal Institute for Materials Research and Testing) for pumping of pure oxygen.

Perfluorinated polyether are used when pumping strongly reactive substances like oxygen (O_2), fluorine F_2 and uranium hexafluoride UF_6. Regarding Lewis acids (for example, boron trifluoride BF_3, aluminum trichloride $AlCl_3$) 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 COF_2. 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.

For all lubricants in our line of products you may obtain Safety Data Sheets in accordance with 91/155/EWG from the Dept. Application Support in Cologne.

Oil recommendations for various areas of application

Application Data	Special oil GS 32	Special oil GS 77	FM 32	FM 68
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	Medicinal white oil with additives – in accordance with FDA and USDA H1	Medicinal white oil with additives – in accordance with FDA and USDA H1
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	Food sector acc. to USDA H1 approved for accidental contact with foodstuffs	Food sector acc. to USDA H1 approved for accidental contact with foodstuffs
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 (Viton)** **NBR (Perbunan) [1)]** **EPDM**	 Suited Suited Not suited	 Suited Suited Not suited	 Suited Suited Not suited	 Suited Suited Not suited

Technical Data		Special oil GS 32	Special oil GS 77	FM 32	FM 68
Viscosity at 40 °C (104 °F)	**mm^2/s**	30	77	32	68
Viscosity at 100 °C (212 °F)	**mm^2/s**	6	10	6	9
Flash point	**°C (°F)**	220 (428)	245 (473)	228 (442)	260 (500)
Vapor pressure at 100 °C (212 °F)	**mbar (Torr)**	5×10^{-3} (6.7×10^{-3})	1×10^{-3} (0.75×10^{-3})	5×10^{-3} (6.7×10^{-3})	1×10^{-3} (0.75×10^{-3})
Density at 15 °C	**g/ml**	0.86	0.87	0.87	0.87
Pour point	**°C (°F)**	-27 (17)	-24 (11)	-9 (-16)	-18 (0)

Ordering Information	Special oil GS 32	Special oil GS 77	FM 32	FM 68
1 litre (1.06 qt)	**Part No. 711 17 772**	**–**	**Part No. 711 17 782**	**–**
2 litres (2.1 qt)	**Part No. 711 17 723**	**–**	**–**	**–**
5 litres (5.29 qt)	**Part No. 711 17 724**	**Part No. 711 17 774**	**Part No. 711 17 783**	**Part No. 711 17 784**
25 litres (26.43 qt)	**–**	**Part No. 711 17 776**	**–**	**Part No. 711 17 786**
60 litres (63.42 qt)	**Part No. 711 17 727**	**–**	**–**	**–**
200 litres (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)] Resistance to decomposing is very much dependent on the share of acrylonitrile in the NBR

Application Data	GS 495	GS 555	NC 10	DOT 4	NC 1/14
Type of oil	Ester oil	Ester oil	Alkyl sulphonic acid ester	Brake fluid	Perfluorinated polyether PFPE
Examples of areas of application and process media	Used at elevated temperatures. Starting of the pump at temperatures between 0 and 12°C	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_3H_8, ethylene C_2H_4), organic solvent vapors	Used for pumping process media which tend to polymerise (for example, styrene C_8H_8, butadiene C_4H_6)	Filling of brake fluid circuits in the car industry only	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), halogen hydracide (for example hydrogen chloride HCl, hydrogen bromide HBr), uranium hexafluoride UF_6, and conditionally Lewis acids (for example, boron trichloride BCl_3)
Remarks			Do not use a chemical oil filter Mixing with other types of oil must be absolutely avoided Do not pump any inorganic acids (for example HCl, H_2SO_4)!	Use only correspondingly modified pumps Mixing with other types of oil must be absolutely avoided	Use only correspondingly modified pumps Mixing with other types of oil must be absolutely avoided The uptake of water vapor must be avoided The use of an oil filter is strongly recommended
Elastomer compatibility					
FPM (Viton)	Suited	Suited	Suited	Not suited	Suited
NBR (Perbunan) [1]	Conditionally suited	Conditionally suited	Not suited	Not suited	Suited
EPDM	Not suited	Not suited	Not suited	Suited	Suited

Technical Data	GS 495	GS 555	NC 10	DOT 4	NC 1/14
Viscosity at 40 °C (104 °F) mm^2/s	30	96	38	N/I	47
Viscosity at 100 °C (212 °F) mm^2/s	6	9	4	> 2	5
Flash point °C (°F)	245 (473)	250 (482)	210 (410)	> 120 (> 248)	No known [3]
Vapor pressure at 20 °C (68 °F) mbar (Torr)	No known	7×10^{-5} (9.3×10^{-5})	1×10^{-4} (0.75×10^{-4})	1.3 (1)	3×10^{-7} (2.5×10^{-7})
Vapor pressure at 100 °C (212 °F) mbar (Torr)	No known	$1{,}5 \times 10^{-3}$ (2×10^{-3})	No known	No known	6×10^{-4} (8×10^{-4})
Density at 15 °C (59 °F) g/ml	No known	0.96	1.05[2]	1.05	1.89 [2]
Pour point °C (°F)	-57 (-71)	-34 (-29)	-15 (-5)	No known	-40 (40)
Middle molecular weight g/mol	No known	No known	No known	No known	2,500

Ordering Information	GS 495	GS 555	NC 10	DOT 4	NC 1/14
1 litre (1.06 qt)	–	–	–	**Part No. 200 10 037**	**Part No. 177 38**
2 litres (2.1 qt)	**Part No. 711 17 763**	–	–	–	–
5 litres (5.29 qt)	**Part No. 711 17 764**	**Part No. 711 17 754**	–	–	–
20 litres (26.43 qt)	**Part No. 711 17 766**	**Part No. 711 17 756**	**Part No. 177 25**	–	–
60 litres (63.42 qt)	**Part No. 711 17 767**	**Part No. 711 17 757**	–	–	–
200 litres (211.42 qt)	–	**Part No. 711 17 759**	–	–	–

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) Resistance to decomposing is very much dependent on the share of acrylonitrile in the NBR
2) at 20 °C (68 °F)
3) **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

Version for the North and South American Continents

Application Data	HE-100	HE-700
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 (Viton) NBR (Perbunan) [1] EPDM	 Suited Suited Not suited	 Suited Suited Not suited

Technical Data		HE-100	HE-700
Viscosity at 40 °C (104 °F)	mm^2/s	32	79
Viscosity at 100 °C (212 °F)	mm^2/s	5.3	9.5
Flash point	°C (°F)	206 (403)	224 (435)
Vapor pressure at 93 °C (200 °F)	mbar (Torr)	2.1×10^{-3} (1.6×10^{-3})	1.6×10^{-2} (1.2×10^{-2})
Pour point	°C (°F)	-27 (-35)	-20 (-5)

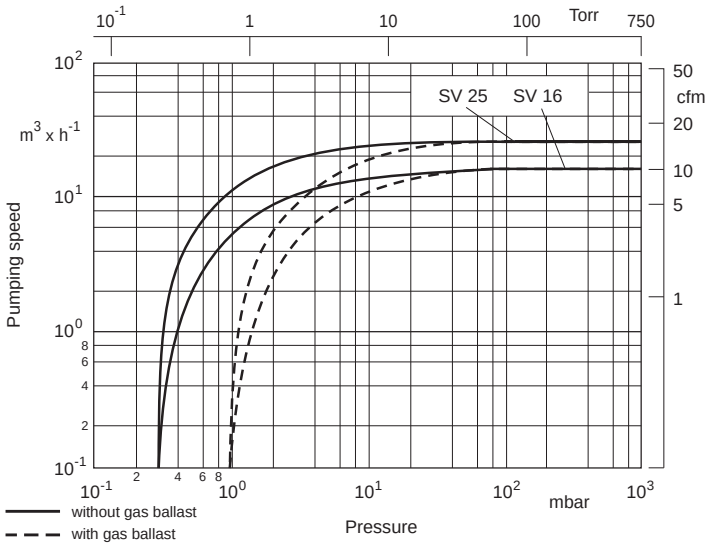
Ordering Information	HE-100	HE-700
1 qt	Part No. 898 537	–
1 gal	Part No. 898 538	Part No. 726 25 023
55 gal	Part No. 898 539	Part No. 726 25 022

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

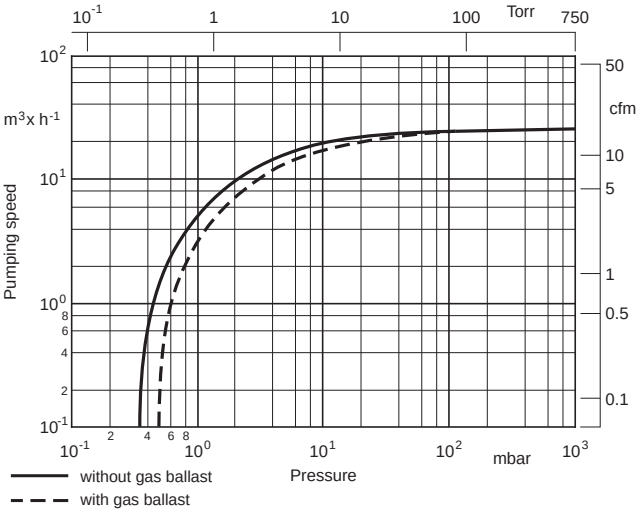
[1] Resistance to decomposing is very much dependent on the share of acrylonitrile in the NBR

Note: HE-100 for use in SV 16 to SV 100, HE-700 for use in SV 200 to SV 1200

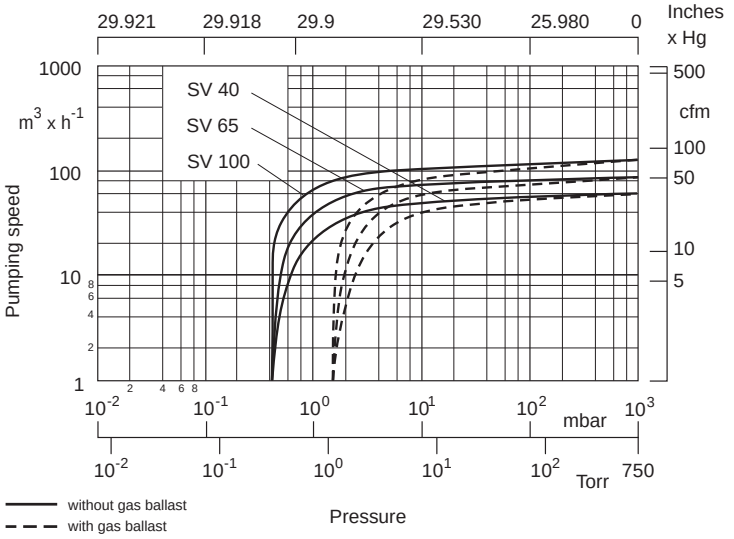
Version for the North and South American Continents



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

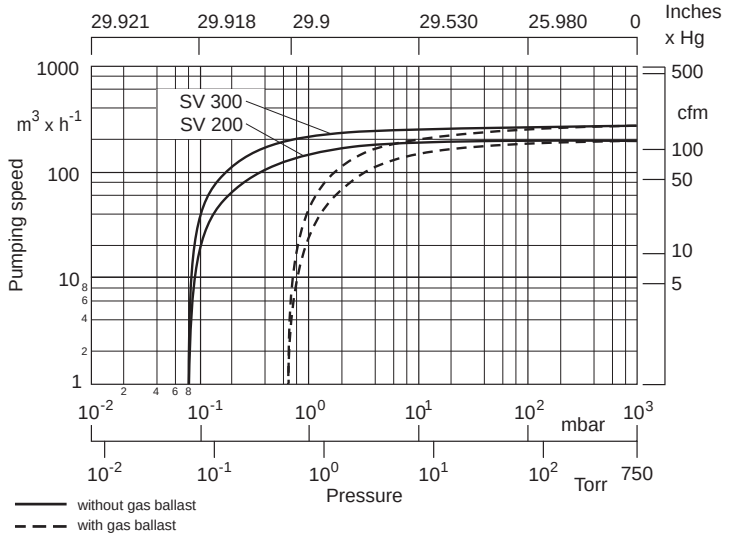


Pumping speed characteristics for the SOGEVAC UV 25 at 60 Hz

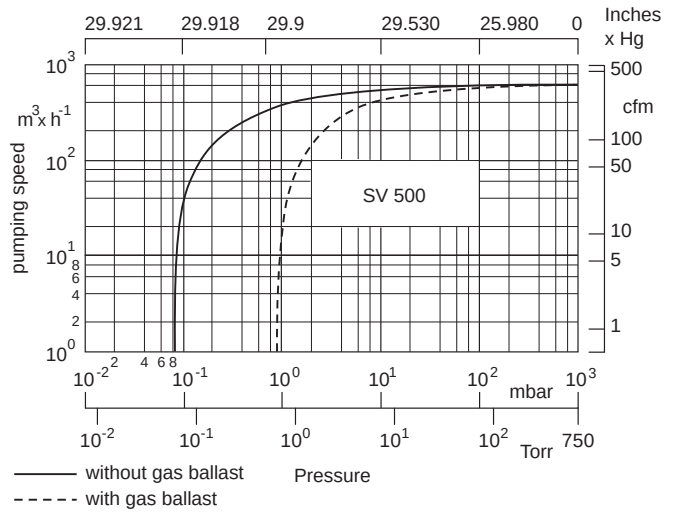


Pumping speed characteristics for the SOGEVAC SV 40 to SV 100 at 60 Hz

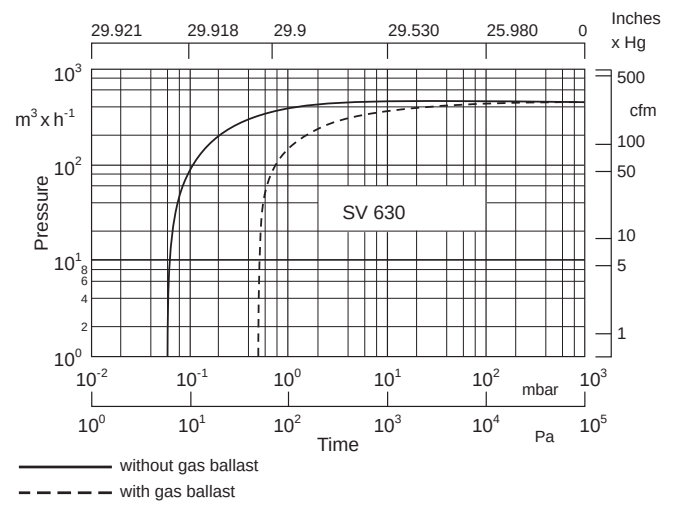
Version for the North and South American Continents



Pumping speed characteristics for the SOGEVAC SV 200 and SV 300 and SV 25 at 60 Hz

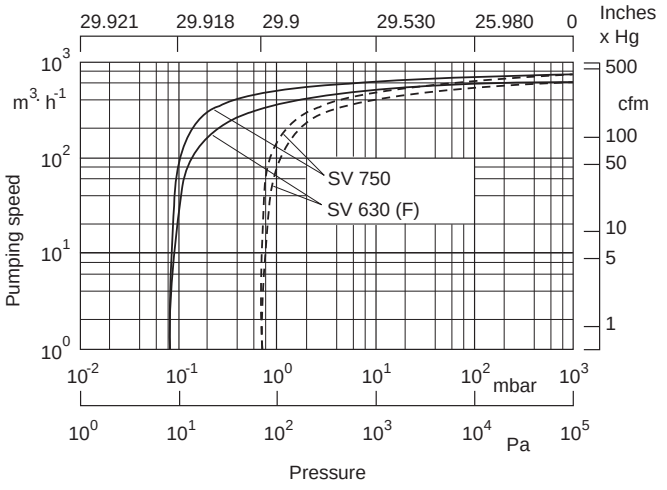


Pumping speed characteristics for the SOGEVAC SV 500 at 60 Hz



Pumping speed characteristics for the SOGEVAC SV 630 and SV 750 at 60 Hz

Version for the North and South American Continents



Pumping speed characteristics for the SOGEVAC SV 1200 at 60 Hz