Oil for SOGEVAC pumps for different pump types

Applications	SV 16 D, SV 25 D	SV 40, SV 65	SV 100	SV 200, SV 200 FP	SV 500, SV 630, SV 750	SV 10 B, SV 16 B/FP	SV 25 B/FP	SV 40 B, SV 45 FP	SV 65 B, SV 100 B, SV 120 B/FP	SV 300 B (FP) to SV 750 B (F)	SV 16 DI to SV 120 BI	SV 40 B category 1(i)/2(o) IIA	SV 40 B category 1(i)/2(o) IIB + H2	SV 40 B to 630 B category 3(i)/3(o)
Pump line	**D**			**A**					**B / BF**				**BI**	**ATEX**
LEYBONOL Oils														
LVO 120	■	■				■	■	▲[1]			■			
LVO 130	▲	■	■	■	■			▲[2]	■	■				
LVO 140	●	●	●			●	●	▲	▲					
LVO 150			●	●	●		▲	●	●	●				
LVO 211	▲[2]	▲[2]	●	●	●	▲	▲	●	●	●			■	■
LVO 300	●	●	●	●	▲			●	●	▲				▲
LVO 400	●	●	●	●	●				●	●				●[3]
LVO 420										■				
LVO 700	●					●	●			●				
LVO 710		●	●	●	●			●	●	●		●	●	●
DOT 4		●						●						

■ = Standard

● = Possible

▲ = Please contact Leybold Valence

[1] = with single-phase motor

[2] = with three-phase motor

[3] = ATEX outside only

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

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

Product Range, Features and Design

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

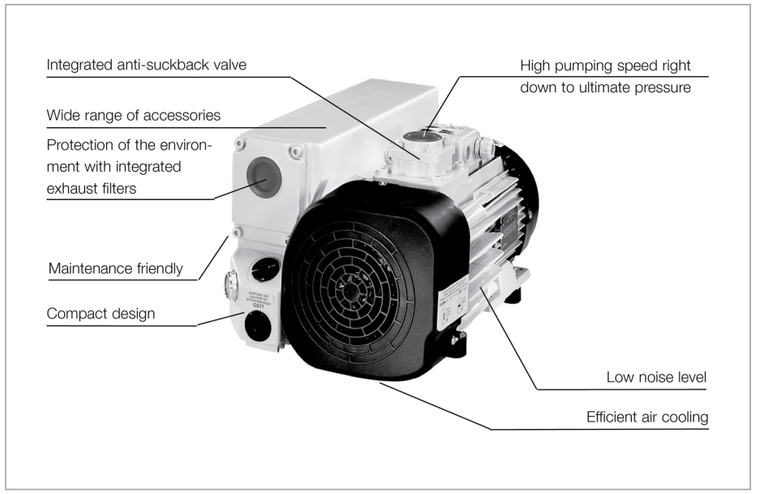
Many years of experience in vacuum engineering and the latest developments in pump technology combine in the SOGEVAC range the capability to adapt to the requirements of both the industry and the environment. The comprehensive range (pumping speeds ranging from 10 to 750 $m^3 \times h^{-1}$ (5.9 to 441.4 cfm)) allows every customer to select the right pump for his particular needs.

Application Examples

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

Advantages to the User

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



Outstanding features of the SOGEVAC pumps

Technical Data

		SOGEVAC SV 10 B		SOGEVAC SV 16 B	
		50 Hz	60 Hz	50 Hz	60 Hz
Nominal speed [1]	m^3/h (cfm)	11.0 (6.5)	13.0 (7.7)	16.0 (9.4)	19.0 (11.2)
Pumping speed [1]	m^3/h (cfm)	9.5 (5.6)	11.5 (6.8)	15.0 (8.8)	17.0 (10.0)
Ultimate total pressure without gas ballast [1]	mbar (Torr)	≤ 1.5 (≤ 1.1)	≤ 1.5 (≤ 1.1)	≤ 1.0 (≤ 0.8)	≤ 1.0 (≤ 0.8)
Ultimate total pressure with gas ballast [1]	mbar (Torr)	≤ 2.5 (≤ 1.9)	≤ 2.5 (≤ 1.9)	≤ 2.0 (≤ 1.5)	≤ 2.0 (≤ 1.5)
Water vapor tolerance [1]	mbar (Torr)	10.0 (7.5)	15.0 (11.3)	10.0 (7.5)	15.0 (11.3)
Water vapor capacity	g/h (qt/hr)	20 (0.02)	30 (0.03)	30 (0.03)	50 (0.05)
Oil capacity	l (qt)	0.5 (0.53)			
Noise level [2]	dB(A)	62 (1-ph.) – 60 (3-ph.)	66 (1-ph.) – 64 (3-ph.)	62 (1-ph.) – 60 (3-ph.)	66 (1-ph.) – 64 (3-ph.)
Admissible ambient temperature	°C (°F)	12 to 40 (54 to 104)			
Motor power	kW (hp)	0.55 (0.75)	0.75 (1.02)	0.55 (0.75)	0.75 (1.02)
Nominal speed	min^{-1} (rpm)	3000 (3000)	3600 (3600)	3000 (3000)	3600 (3600)
Type of protection	IP	55-F			
Weight (with oil filling)	kg (lbs)	20.0 (41.55)	20.0 (41.55)	20.5 (45.25)	20.5 (45.25)
Dimensions (L x W x H)	mm (in.)	315 x 281 x 199 (12.4 x 11.06 x 7.83)			
Connections intake (Inside thread) [3]	G	3/4" + 1/2"			

Ordering Information

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

[1] To DIN 28 400 and following numbers
[2] Operated at the ultimate pressure without gas ballast, free-field measurement at a distance of 1 m (3.5 ft)
[3] 1/2" adapter supplied. Basic port is 3/4"
[4] Single-phase motors do not have plugs, cords or ON/OFF switches
[5] Please indicate when ordering a pump

Materials (materials in contact with the process gas) Steel cast iron, Aluminium, Bronze, FPM (FKM), Glass, Polyamid 6.6, Filter material, (Polymers, Paper) Epoxy resin and Glass fibre

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

SOGEVAC SV 16 D / SV 16 DI / SV 25 D



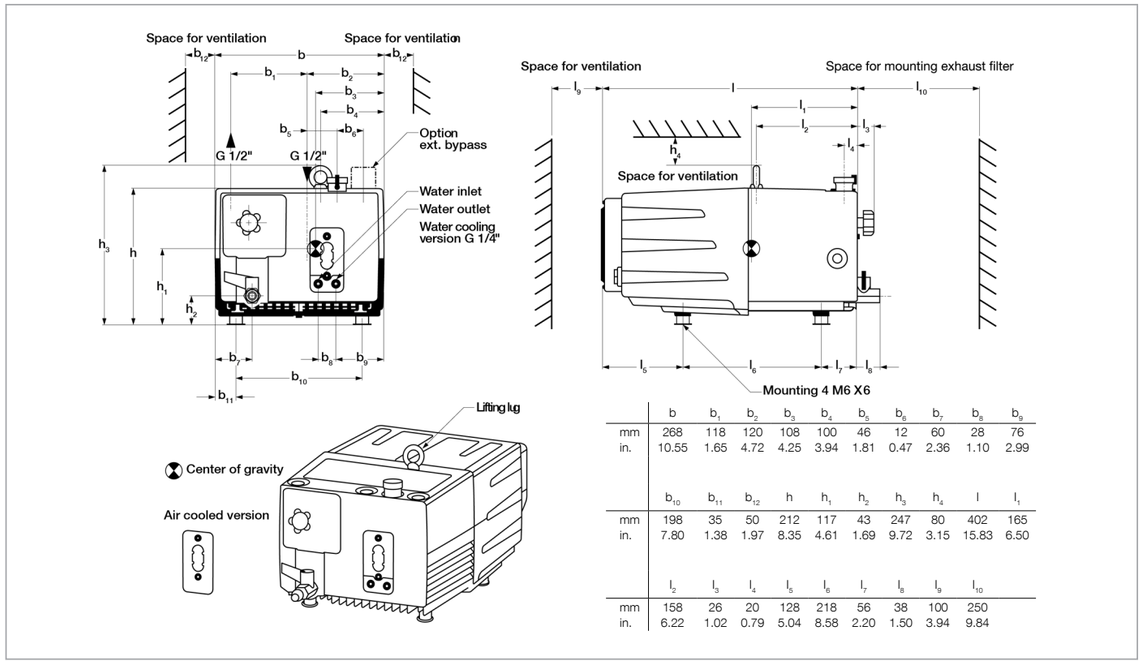
SOGEVAC SV 16 D / 16 DI / 25 D

Advantages to the User

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

Typical Applications

- Oil purification, drying and de gassing
- Plastic and rubber injection presses
- O_2 applications
- Analytical Instruments
- and more ...



	b	b_1	b_2	b_3	b_4	b_5	b_6	b_7	b_8	b_9
mm	268	118	120	108	100	46	12	60	28	76
in.	10.55	1.65	4.72	4.25	3.94	1.81	0.47	2.36	1.10	2.99

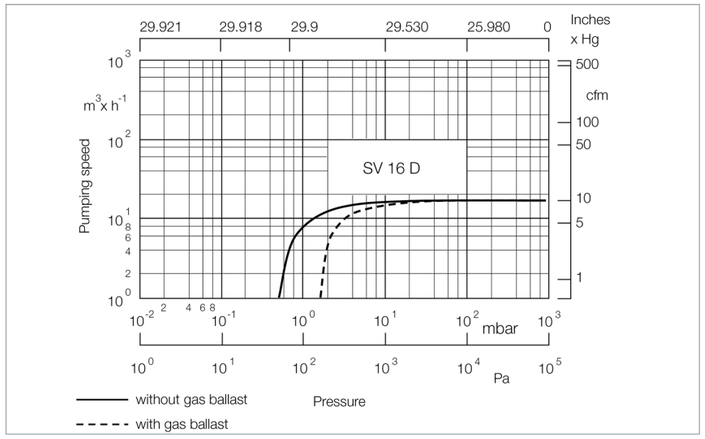
	b_{10}	b_{11}	b_{12}	h	h_1	h_2	h_3	h_4	l	l_1
mm	198	35	50	212	117	43	247	80	402	165
in.	7.80	1.38	1.97	8.35	4.61	1.69	9.72	3.15	15.83	6.50

	l_2	l_3	l_4	l_5	l_6	l_7	l_8	l_9	l_{10}
mm	158	26	20	128	218	56	38	100	250
in.	6.22	1.02	0.79	5.04	8.58	2.20	1.50	3.94	9.84

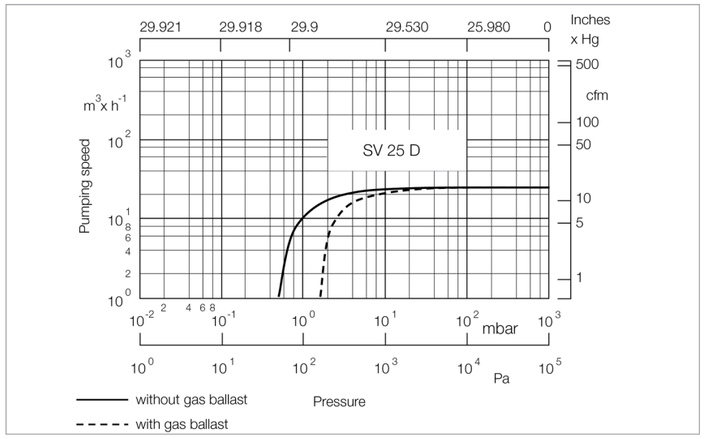
Dimensional drawing for the SOGEVAC SOGEVAC SV 16 D / 16 DI / 25 D

Technical Data		SOGEVAC 50 Hz	SV 16 D 60 Hz	SOGEVAC 50 Hz	SV 16 DI 60 Hz	SOGEVAC 50 Hz	SV 25 DI 60 Hz
Nominal speed [1]	m^3/h (cfm)	16.0 (9.4)	18.7 (11.0)	16.0 (9.4)	18.7 (11.0)	25.0 (14.7)	29.0 (17.0)
Pumping speed [1]	m^3/h (cfm)	14.5 (8.5)	17.0 (10.0)	14.5 (8.5)	17.0 (10.0)	22.5 (13.3)	25.5 (15.0)
Ultimate total pressure without gas ballast [1]	mbar (Torr)	≤ 0.5 (≤ 0.4)		≤ 0.1 (≤ 0.08)		≤ 0.5 (≤ 0.4)	
Ultimate total pressure with gas ballast [1]	mbar (Torr)	≤ 1.5 (≤ 1.1)		≤ 1.0 (≤ 0.8)		≤ 1.5 (≤ 1.1)	
Water vapor tolerance [1]	mbar (Torr)	15.0 (11.3)					
Water vapor capacity	kg/h (qt/hr	0.05 (0.05)	0.15 (0.16)	0.05 (0.05)	0.15 (0.16)	0.05 (0.05)	0.15 (0.16)
Oil capacity	l (qt)	2.0 (2.1)					
Noise level [2]	dB(A)	≤ 59					
Type of protection	IP	21-F					
Admissible ambient temperatur							
1~ (oil: 32 cSt, approx.)	°C (°F)	+18 to +40 (+64 to 104)					
3~	°C (°F)	+12 to +40 (+54 to 104)					
Motor power (1~ and 3~), approx.	kW (hp)	0.75 (1.01)	0.90 (1.21)	0.75 (1.01)	0.90 (1.21)	0.75 (1.01)	0.90 (1.21)
Nominal speed	min^{-1} (rpm)	1440 (1440)	1750 (1750)	1440 (1440)	1750 (1750)	1440 (1440)	1750 (1750)
Weight (with oil filling)	kg (lbs)	25 (55.1)					
Connections, Intake and Exhaust [3]		1/2" NPT/G		25 ISO-KF		1/2“ NPT/G	

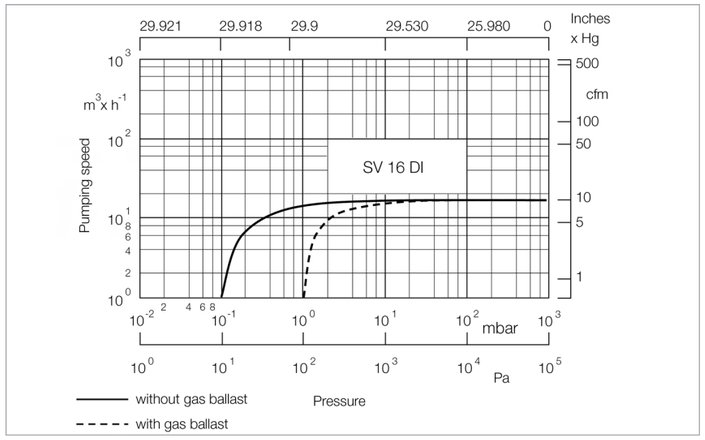
[1] To DIN 28 400 ff
[2] Operated at the ultimate pressure without gas ballast, free-field measurement at a distance of 1 m (3.5 ft)
[3] Please indicate when ordering a pump



Pumping speed characteristics of the SOGEVAC SV 16 D at 50 Hz*



Pumping speed characteristics of the SOGEVAC SV 25 D at 50 Hz*



Pumping speed characteristics of the SOGEVAC SV 16 DI at 50 Hz*

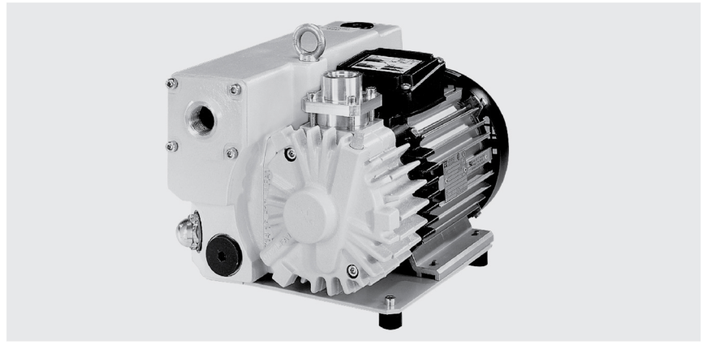
* 60 Hz curves at the end of the chapter

Ordering Information

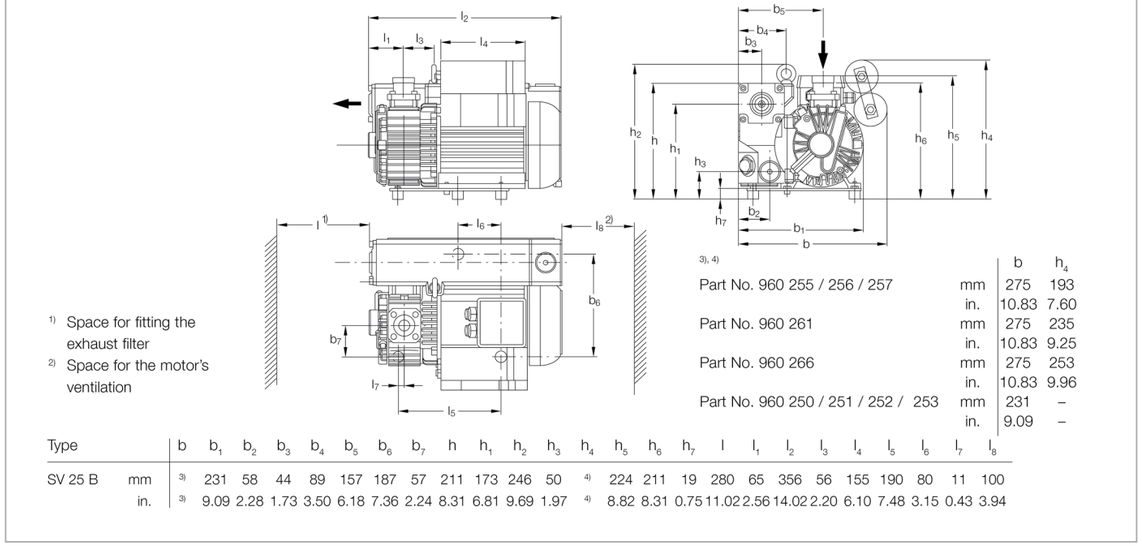
	SOGEVAC SV 16 D(I)	SOGEVAC SV 25 D
	Part No.	**Part No.**
SOGEVAC SV 16 D / SV 25 D with UL/CSA world three-phase motor and integrated gas ballast valve 200 – 240 V ±10% and 380 – 415 V ±10%, 50 Hz / 200 – 240 V ±10% and 380 – 460 V ±10%, 60 Hz [1]	**960 181V**	**960 211V**
with single phase motor and integrated gas ballast valve 200 – 240 V ±10%, 50/60 Hz	**960 185V**	**-**
230 V ±10%, 50/60 Hz	**-**	**960 215V**
100 V -15% and 100 V +10%, 50/60 Hz	**960 184V**	**-**
110 – 115 V ±10% and 220 – 230 V ±10%, 50/60 Hz (switchable manually)	**960 186V**	**-**
Other voltages/frequencies	**upon request**	**upon request**
Filling with special oil	**upon request**	**upon request**
SOGEVAC SV 16 DI with UL/CSA world three-phase motor and integrated gas ballast valve 200 – 240 V ±10% and 380 – 415 V ±10%, 50 Hz / 200 – 240 V ±10% and 380 – 460 V ±10%, 60 Hz [1]	**960 191V3001**	**-**
with single phase motor and integrated gas ballast valve 200 – 240 V ±10%, 50/60 Hz	**960 195V3001**	**-**
100 V -15% and 100 V +10%, 50/60 Hz	**960 194V3001**	**-**
110 – 115 V ±10% and 220 – 230 V ±10%, 50/60 Hz (switchable manually)	**960 196V3001**	**-**
Accessories		
Exhaust filter monitoring gauge, mechanical G 3/4" [2, 3]	**951 93**	**951 93**
Temperature switch conversion kit with plug, for three-phase version only [2, 3]	**upon request**	**upon request**
Spare Parts		
Exhaust filter cartridge AFE	**712 32 023**	**712 32 023**
Maintenance kit (filter, O-Ring, filling plug)	**EK 971 473 420**	**EK 971 473 420**
Seal kit FPM (FKM) SV 16 D / SV 25 D	**EK 971 473 430**	**EK 971 473 430**
Repair kit complete SV 16 D / SV 25 D	**EK 971 473 440**	**EK 971 473 440**

[1] Pumps are delivered in high voltage connection.
For an operation at low voltage, the connections at motor terminal board must be changed
[2] Please indicate when ordering a pump
[3] Can be retrofitted

SOGEVAC SV 25 B



SOGEVAC SV 25 B



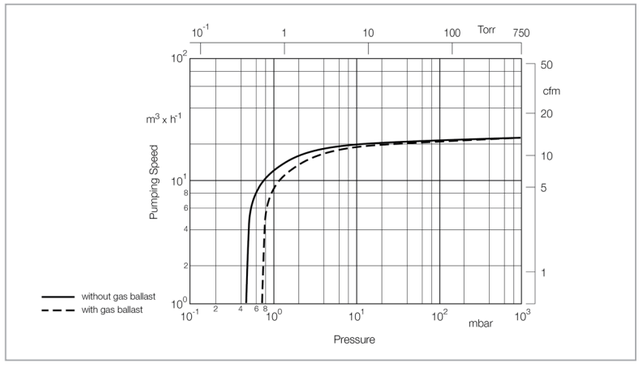
1) Space for fitting the exhaust filter
2) Space for the motor's ventilation

3), 4)

		b	h_4
Part No. 960 255 / 256 / 257	mm	275	193
	in.	10.83	7.60
Part No. 960 261	mm	275	235
	in.	10.83	9.25
Part No. 960 266	mm	275	253
	in.	10.83	9.96
Part No. 960 250 / 251 / 252 / 253	mm	231	–
	in.	9.09	–

Type		b	b_1	b_2	b_3	b_4	b_5	b_6	b_7	h	h_1	h_2	h_3	h_4	h_5	h_6	h_7	l	l_1	l_2	l_3	l_4	l_5	l_6	l_7	l_8
SV 25 B	mm	3)	231	58	44	89	157	187	57	211	173	246	50	4)	224	211	19	280	65	356	56	155	190	80	11	100
	in.	3)	9.09	2.28	1.73	3.50	6.18	7.36	2.24	8.31	6.81	9.69	1.97	4)	8.82	8.31	0.75	11.02	2.56	14.02	2.20	6.10	7.48	3.15	0.43	3.94

Dimensional drawing for the SOGEVAC SV 25 B



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