















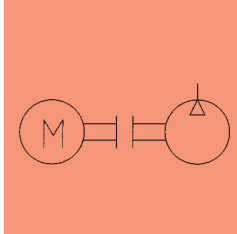
# 5 VACUUM GENERATORS

	<i>Oil lubricated vacuum pumps VE-O</i>	5.2
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**Description**

Robust and durable air-cooled vacuum pumps with inner oil circulation, which work after the rotation principle. Oil mist separators guarantee clean exhaust air. The pumps are furnished with a non-return valve and a vacuum filter in series. The oil lubricated vacuum pumps achieve a vacuum of approx. 98%. The pumps are delivered without oil filling. The oil has to be added separately. Optionally available with motor protection switch.

Surrounding temperature: ca. 12 - 30° C  
 Operational temperature: ca. 70 - 80° C



Switching diagram pump



Vacuum pumps 010.1 and 016.1



Vacuum pumps 025.1 - 040.1



Vacuum pumps 063.1 - 0100.1



Vacuum pumps 0160.2 - 0250.2 (without vacuum filter)



Vacuum pumps 0400 (without vacuum filter)

<b>Article numbers</b>					
Type	Vacuum pump m. Filter <sup>2)</sup>	Vacuum filter Type	Vacuum filter Art.-Nr:	Filter cartridge	Motor protec- tion switch <sup>3)</sup>
VP-010.1-230/400V-0,37kW	1.41.1.0001	VF-3/4	1.53.2.0006	2.53.2.0014	6.33.3.0003
VP-016.1-230/400V-0,55kW	1.41.1.0003	VF-3/4	1.53.2.0006	2.53.2.0014	6.33.3.0003
VP-025.1-230/400V-0,75kW	1.41.1.0007	VF-1 1/4A	1.53.2.0003	2.53.2.0005	6.33.3.0003
VP-040.1-230/400V-1,1kW	1.41.1.0010	VF-1 1/4A	1.53.2.0003	2.53.2.0005	6.33.3.0003
VP-063.1-230/400V-1,5kW	1.41.1.0014	VF-1 1/4A	1.53.2.0003	2.53.2.0005	6.33.3.0003
VP-0100.1-230/400V-2,2kW	1.41.1.0004	VF-1 1/4B	1.53.2.0004	2.53.2.0004	6.33.3.0004
VP-0160.2-230/400V-4,0kW	1.41.1.0006	VF-2 1/2	1.53.2.0005	2.53.2.0006	6.33.3.0004
VP-0250.2-230/400V-5,5kW	1.41.1.0009	VF-2 1/2	1.53.2.0005	2.53.2.0006	6.33.3.0005
VP-0400-400/690V-11,0kW	on request	VF-2 1/2	1.53.2.0005	2.53.2.0006	6.33.3.0006

2) Vacuum filter mounted

3) Motor protection switch with housing

<b>Technical Data</b>								
Type	Voltage	Current consumption	max. vacuum	Suction capacity	Motor speed	Motor rating	Weight	Sound level <sup>1)</sup>
	(V)	(A)	(%)	(m <sup>3</sup> /h)	(1/min)	(kW)	(kg)	(dB (A))
VP-010.1-230/400V-0,37kW	230/ 400	2,1/ 1,2	98	10	3000	0,37	16	59
VP-016.1-230/400V-0,55kW	230/ 400	2,6/ 1,5	98	16	3000	0,55	18	60
VP-025.1-230/400V-0,75kW	230/ 400	3,2/ 1,9	98	25	1500	0,75	34	62
VP-040.1-230/400V-1,1kW	230/ 400	4,6/ 2,7	98	40	1410	1,1	38	64
VP-063.1-230/400V-1,5kW	230/ 400	5,8/ 3,3	98	63	1400	1,5	52	65
VP-0100.1-230/400V-2,2kW	230/ 400	8,6/ 5,0	98	100	1500	2,2	70	67
VP-0160.2-230/400V-4,0kW	230/ 400	21/ 14,1	98	160	1500	4	140	70
VP-0250.2-230/400V-5,5kW	230/ 400	13,5/ 8,0	98	250	1500	5,5	190	72
VP-0400-400/690V-11,0kW	400/ 690	27,5/ 15,9	98	400	1000	11	435	77

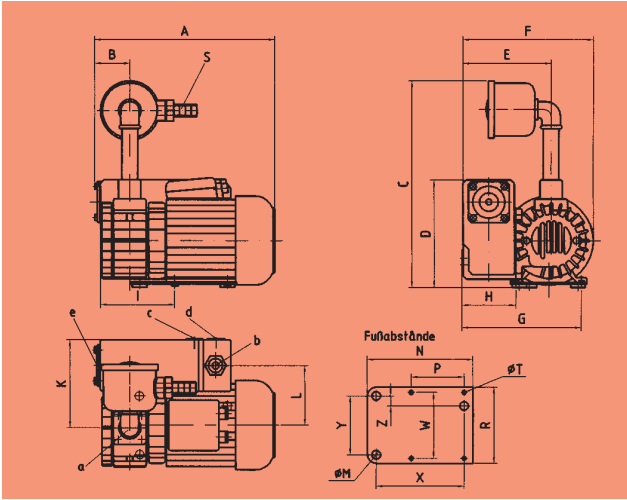
All values with 50 Hz. special voltages, -frequencies on request

1) Measured according to DIN 45635. The indicated values are valid with a tolerance of ± 10 %

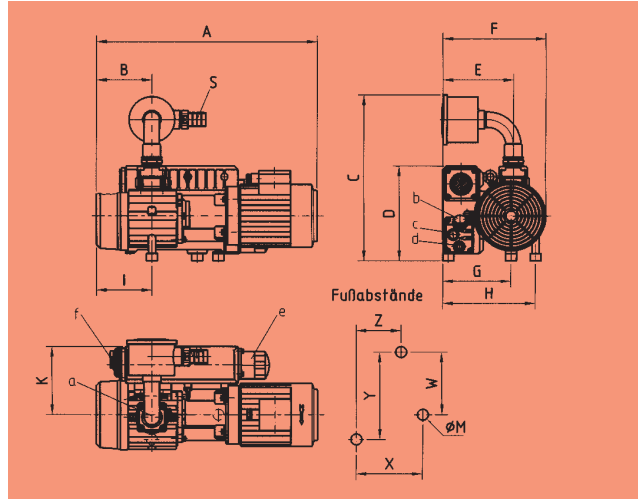
### Mounting Advice:

Oil lubricated pumps can only be mounted and operated in horizontal position.

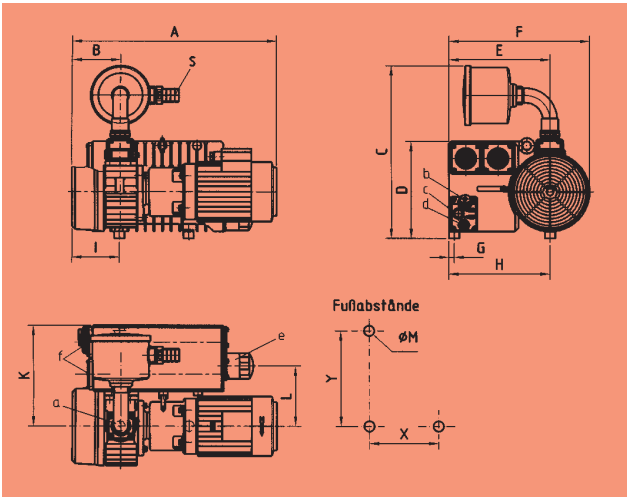
The pumps are suitable for continuous operation.



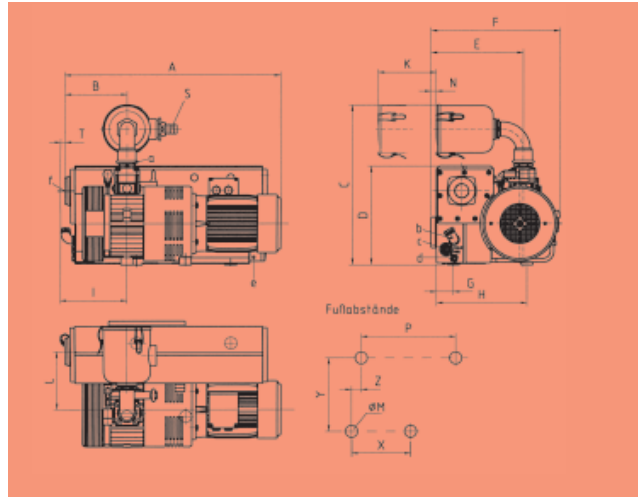
Vacuum pumps 010.1 and 016.1



Vacuum pumps 025.1 and 040.1

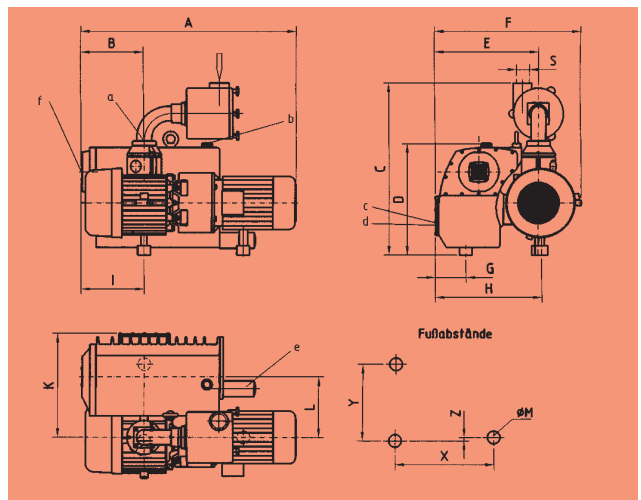


Vacuum pumps 063.1 and 0100.1



Vacuum pumps 0160.2 and 0250.2

- a Suct. connection
- b Oil filling
- c Oil sight glas
- d Oil drain
- e Oil filter
- f Gas discharge



Vacuum pump 0400

<b>Dimensions</b>											
Type	A	B	C	D	E	F	G	H	I	K	L
VP-010.1	271	60	364	196	151	219	204	92	127	151	102
VP-016.1	308	60	340	170	153	224	204	92	127	153	102
VP-025.1	546	131	465	260	193	282	186	252	131	193	136
VP-040.1	609	151	465	260	193	282	186	252	151	193	136
VP-063.1	603	137	492	280	292	406	15	292	137	292	177
VP-0100.1	693	170	507	280	292	406	15	292	170	292	177
VP-0160.2	895	260	661	408	382	535	70	375	279	240	241
VP-0250.2	1029	300	661	408	382	535	21	371	319	240	242
VP-0400	1260	370	1011	668	611	861	181	631	356	611	356

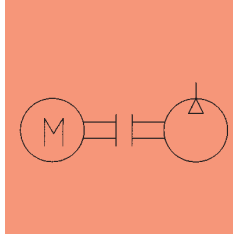
<b>Dimensions</b>										
Type	M	N	P	R	S	T	W	X	Y	Z
					LW					
VP-010.1	M 6	180	90	130	3/4"	7	112	150	100	17
VP-016.1	M 6	180	90	130	3/4"	7	112	150	100	17
VP-025.1	M 8	--	--	--	38	--	171	160	238	120
VP-040.1	M 8	--	--	--	38	--	171	180	238	123
VP-063.1	M 8	--	--	--	38	--	--	200	277	--
VP-0100.1	M 8	--	--	--	38	--	--	227	277	--
VP-0160.2	M 10	22	390	--	G 2 1/2"	19	--	243	305	40
VP-0250.2	M 10	18	390	--	G 2 1/2"	16	--	303	350	--
VP-0400	M 12	--	--	--	G 3"	--	--	581,5	450,5	20,5

**Description**

Robust, easy-to-maintain and long-lived vacuum pumps, which work after the rotation principle. The small, light pumps are especially suitable for smaller devices and single working places, as for basic stand G or GDS and single suction plates.

The pumps are air-cooled and work absolutely oilless, which also makes the exhaust air oilless. The oilless vacuum pumps can be mounted in every position and are also suitable for devices and units with swivel mechanism. All pumps are furnished with suction filters in series. Suitable for work, in which a maximum vacuum of approx. 85 % is required.

Optionally available with motor protection switches.



Switching diagram pump



Vacuum pumps T 4.4 and T 4.8



Vacuum pumps T 4.16 to T 4.40



Vacuum pumps T 4.60 to T 4.140



Vacuum pumps T 4.250 to T 4.500

**5**  
 Vacuum  
 generators

<b>Article numbers</b>					
Type	Vacuum pump	Filter cartridge f. integrated filter	Motor protection switch	Additional filter	Filter cartridge f. additional filter
VP-T4.4-230V-0,18kW	1.41.2.0017	2.41.2.0171	---	1.53.2.0002	2.53.2.0009
VP-T4.4-230/400V-0,18kW	1.41.2.0016	2.41.2.0171	6.33.3.0003	1.53.2.0002	2.53.2.0009
VP-T4.8-230V-0,35kW	1.41.2.0019	2.41.2.0172	---	1.53.2.0002	2.53.2.0009
VP-T4.8-230/400V-0,35kW	1.41.2.0018	2.41.2.0172	6.33.3.0003	1.53.2.0002	2.53.2.0009
VP-T4.16-230V-0,55kW	1.41.2.0015	2.41.2.0120	---	1.53.2.0006	2.53.2.0014
VP-T4.16-230/400V-0,55kW	1.41.2.0014	2.41.2.0120	6.33.3.0003	1.53.2.0006	2.53.2.0014
VP-T4.25-230/400V-0,75kW	1.41.2.0004	2.41.2.0099	6.33.3.0003	1.53.2.0003	2.53.2.0014
VP-T4.40-230/400V-1,25kW	1.41.2.0005	2.41.2.0099	6.33.3.0003	1.53.2.0003	2.53.2.0005
VP-T4.60-230/400V-1,5kW	1.41.2.0006	2.41.2.0107	6.33.3.0003	1.53.2.0003	2.53.2.0005
VP-T4.80-230/400V-2,2kW	1.41.2.0007	2.41.2.0107	6.33.3.0004	1.53.2.0004	2.53.2.0005
VP-T4.100-230/400V-3kW	1.41.2.0001	2.41.2.0107	6.33.3.0004	1.53.2.0004	2.53.2.0004
VP-T4.140-230/400V-4kW	1.41.2.0002	2.41.2.0107	6.33.3.0004	1.53.2.0004	2.53.2.0004
VP-T4.250-400/690V-5,5kW	1.41.2.0003	2.41.2.0105	6.33.3.0005	1.53.2.0005	2.53.2.0006
VP-T4.360-400/690V-11kW	on request	on request	6.33.3.0006	1.53.2.0005	2.53.2.0006
VP-T4.500-400/690V-15kW	on request	on request	on request	on request	on request

Motor protection switch with housing

<b>Technical Data</b>								
Type	Voltage	Current consumption	Max. vacuum	Suction capacity	Motor speed	Motor rating	Weight	Sound level <sup>2)</sup>
	(V)	(A)	(%)	(m <sup>3</sup> /h)	(1/min)	(kW)	(kg)	(dB (A))
VP-T4.4-230V-0,18kW	230	1,65	85	4,05	2800	0,18	7	59
VP-T4.4-230/400V-0,18kW	230/ 400	1,06/ 0,62	85	4,05	2800	0,18	7	59
VP-T4.8-230V-0,35kW	230	3,9	85	7,6	2800	0,35	11,5	58
VP-T4.8-230/400V-0,35kW	230/ 400	2,35/ 1,36	85	7,6	2800	0,35	11,5	58
VP-T4.16-230V-0,55kW	230	4,6	85	16	1420	0,55	22,4	61
VP-T4.16-230/400V-0,55kW	230/ 400	3,8/ 2,2	85	16	1420	0,55	22,4	61
VP-T4.25-230/400V-0,75kW	230/ 400	6/ 3,5	85	25	1420	0,75	26	62
VP-T4.40-230/400V-1,25kW	230/ 400	5,7/ 3,3	85	40	1420	1,25	38,5	67
VP-T4.60-230/400V-1,5kW	230/ 400	6,2/ 3,6	90	55	1420	1,5	62	71
VP-T4.80-230/400V-2,2kW	230/ 400	8,8/ 5,1	90	67	1420	2,2	69	72
VP-T4.100-230/400V-3kW	230/ 400	11,6/ 6,7	90	98	1430	3	90	75
VP-T4.140-230/400V-4kW	230/ 400	15/ 8,7	90	132	1430	4	104	76
VP-T4.250-400/690V-5,5kW	400/ 690	12,3/ 7,2	80	250	960	5,5	312	81
VP-T4.360-400/690V-11kW	400/ 690	23/ 13,5	75	360	1450	11	347	82
VP-T4.500-400/690V-15kW	400/ 690	30,5/ 17,7	75	500	950	15	480	81

1) All values with 50 Hz. special voltages, -frequencies on request  
2) Measured with distance of 1 m

**Mounting Advice:**

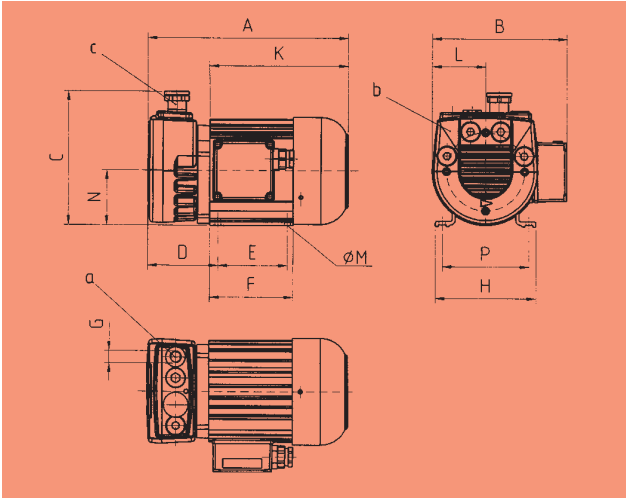
Mounting position discretionary.

For continuous operation we recommend our oil lubricated pumps.

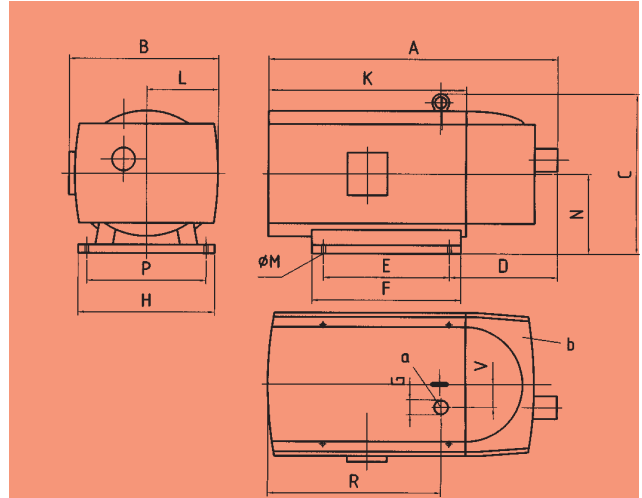
**Advice:**

Suitable hose nipples see chapter 8.

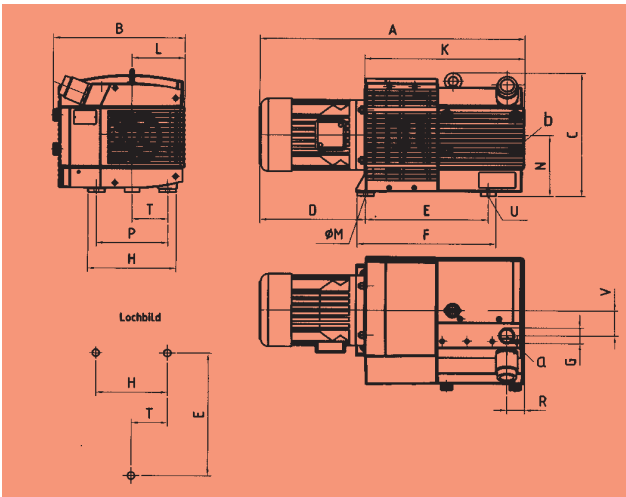
Additional filter see chapter 8.



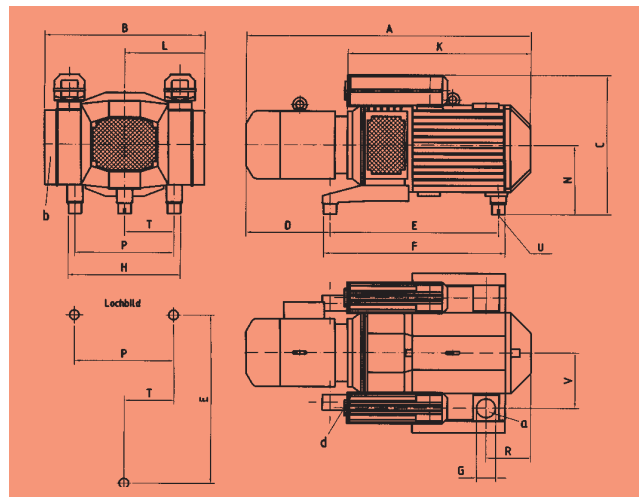
Vacuum pumps T 4.4 and T 4.8



Vacuum pumps T 4.16 to T 4.40



Vacuum pumps T 4.60 to T 4.140



Vacuum pumps T 4.250 to T 4.500

- a Suction connection
- b Suction filter
- c Silencer
- d Exhaust air line

<b>Dimensions</b>									
Type	A	B	C	D	E	F	G	H	K
VP-T4.4	221	155	148	71	80	96	G 1/4"	116	158
VP-T4.8	231	155	154	81	80	96	G 3/8"	116	158
VP-T4.16	451	232	213	177	202	242	G 1/2"	155	321
VP-T4.25	505	260	290	186	220	260	G 3/4"	238	345
VP-T4.40	520	260	290	221	220	260	G 3/4"	238	412
VP-T4.60	650	353	328	253	326	362	G 1"	240	415
VP-T4.80	703	353	328	306	326	362	G 1"	240	415
VP-T4.100	807	470	336	306	398	380	G 1 1/2"	295	539
VP-T4.140	826	470	336	325	398	380	G 1 1/2"	295	539
VP-T4.250	ca. 1092	612	533	ca. 322	645	695	G 2 1/2"	430	684
VP-T4.360	ca. 1233	612	533	ca. 322	645	695	G 2 1/2"	430	714
VP-T4.500	ca. 1451	766	710	ca. 518	768	843	G 4"	555	863

<b>Dimensions</b>									
Type	L	M	N	P	R	T	U	V	
VP-T4.4	62	7	63	100	--	--	--	--	
VP-T4.8	62	7	63	100	--	--	--	--	
VP-T4.16	102	7	116	125	291	--	--	37,5	
VP-T4.25	125	7	143	190	302,5	--	--	40	
VP-T4.40	125	7	143	208	363,5	--	--	40	
VP-T4.60	141	12	162	190	46	95	M 8	65	
VP-T4.80	141	12	162	190	46	95	M 8	65	
VP-T4.100	230	12	162	245	60	122,5	M 8	95	
VP-T4.140	230	12	162	245	60	122,5	M 8	95	
VP-T4.250	306	--	533,5	380	171,5	190	M 10	211,5	
VP-T4.360	306	--	533,5	380	171,5	190	M 10	211,5	
VP-T4.500	383	--	710	480	206	240	M 12	265	

**Description**

Vacuum-supply-station for lifting devices without integrated tank or for single suction plates. The vacuum energy units consist of vacuum tank, vacuum pump, non-return valve, vacuum filter, vacuum gauge, 2/2-way-ball valve and hose nipples.

By using vacuum energy units in connection with vacuum load lifting devices the suction times can be drastically reduced and the safety standards can be increased.

Options:

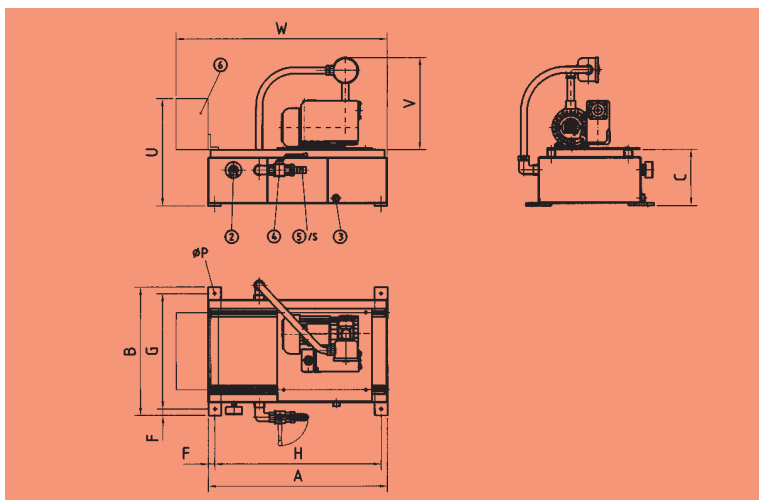
- Motor protection switch
- vacuum-controlled motor switch
- Vacuum generator with a.c. motor
- water level gauge
- drain cock



Vacuum energy unit

<b>Article numbers</b>				
Type	Part No:	Motor	Vacuum controlled	Filter cartridge
		protection switch	motor switch	for vac. generator
VEE-15L-T4.4-230/400V	1.42.2.0015	6.33.3.0003	6.36.1.0004	2.41.2.0171
VEE-15L-T4.8-230/400V	1.42.2.0017	6.33.3.0003	6.36.1.0004	2.41.2.0172
VEE-15L-T4.16-230/400V	1.42.2.0013	6.33.3.0003	6.36.1.0004	2.41.2.0120
VEE-50L-T4.4-230/400V	1.42.2.0031	6.33.3.0003	6.36.1.0004	2.41.2.0171
VEE-50L-T4.8-230/400V	1.42.2.0035	6.33.3.0003	6.36.1.0004	2.41.2.0172
VEE-50L-T4.16-230/400V	1.42.2.0027	6.33.3.0003	6.36.1.0004	2.41.2.0120
VEE-50L-T4.25-230/400V	1.42.2.0029	6.33.3.0003	6.36.1.0004	2.41.2.0099
VEE-50L-T4.40-230/400V	1.42.2.0030	6.33.3.0003	6.36.1.0004	2.41.2.0099
VEE-100L-T4.16-230/400V	1.42.2.0002	6.33.3.0003	6.36.1.0004	2.41.2.0120
VEE-100L-T4.25-230/400V	1.42.2.0004	6.33.3.0003	6.36.1.0004	2.41.2.0099
VEE-100L-T4.40-230/400V	1.42.2.0005	6.33.3.0003	6.36.1.0004	2.41.2.0099
VEE-200L-T4.25-230/400V	1.42.2.0021	6.33.3.0003	6.36.1.0004	2.41.2.0099
VEE-200L-T4.40-230/400V	1.42.2.0022	6.33.3.0003	6.36.1.0004	2.41.2.0099

<b>Article numbers</b>				
Type	Part No:	Motor	Vacuum controlled	Filter cartridge
		protection switch	motor switch	for vac. generator
VEE-15L-016.1-230/400V	1.42.1.0008	6.33.3.0003	6.36.1.0004	2.53.2.0014
VEE-50L-016.1-230/400V	1.42.1.0018	6.33.3.0003	6.36.1.0004	2.53.2.0014
VEE-50L-025.1-230/400V	1.42.1.0019	6.33.3.0003	6.36.1.0004	2.53.2.0005
VEE-50L-040.1-230/400V	1.42.1.0020	6.33.3.0003	6.36.1.0004	2.53.2.0005
VEE-50L-063.1-230/400V	1.42.1.0021	6.33.3.0003	6.36.1.0004	2.53.2.0005
VEE-50L-0100.1-230/400V	1.42.1.0017	6.33.3.0003	6.36.1.0004	2.53.2.0004
VEE-100L-016.1-230/400V	1.42.1.0002	6.33.3.0003	6.36.1.0004	2.53.2.0014
VEE-100L-025.1-230/400V	1.42.1.0004	6.33.3.0003	6.36.1.0004	2.53.2.0005
VEE-100L-040.1-230/400V	1.42.1.0005	6.33.3.0003	6.36.1.0004	2.53.2.0005
VEE-100L-063.1-230/400V	1.42.1.0006	6.33.3.0003	6.36.1.0004	2.53.2.0005
VEE-100L-0100.1-230/400V	1.42.1.0001	6.33.3.0003	6.36.1.0004	2.53.2.0004
VEE-100L-0160.1-230/400V	1.42.1.0003	6.33.3.0004	6.36.1.0005	2.53.2.0006
VEE-200L-016.1-230/400V	1.42.1.0011	6.33.3.0003	6.36.1.0004	2.53.2.0005
VEE-200L-025.1-230/400V	1.42.1.0013	6.33.3.0003	6.36.1.0004	2.53.2.0005
VEE-200L-040.1-230/400V	1.42.1.0015	6.33.3.0003	6.36.1.0004	2.53.2.0005
VEE-200L-063.1-230/400V	1.42.1.0016	6.33.3.0003	6.36.1.0004	2.53.2.0005
VEE-200L-0100.1-230/400V	1.42.1.0010	6.33.3.0004	6.36.1.0004	2.53.2.0004
VEE-200L-0160.2-230/400V	1.42.1.0012	6.33.3.0004	6.36.1.0005	2.53.2.0006
VEE-200L-0250.2-400/690V	1.42.1.0014	6.33.3.0005	6.36.1.0006	2.53.2.0006



- 2: Vacuum gauge
- 3: Condensate release
- 4: Stop cock
- 5: Hose connection
- 6: Electric box with motor protection switch

Vacuum energy unit with oil lubricated vacuum pump

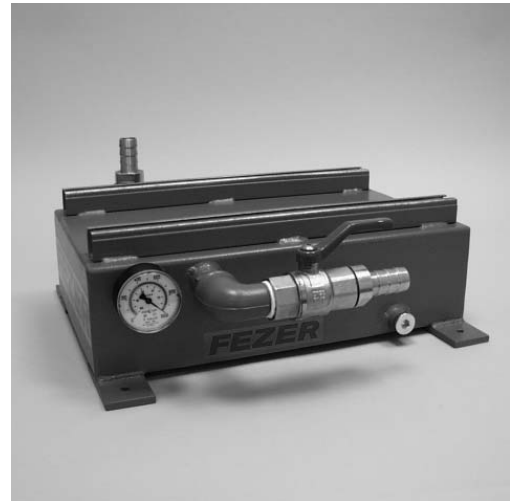
<b>Dimensions</b>											
Type	A	B	C	F	G	H	P	S	U	V	W
								LW			max.
VEE-15L-T4.4	450	380	158	25	330	400	8,5	3/4"	360	170	570
VEE-15L-T4.8	450	380	158	25	330	400	8,5	3/4"	360	170	570
VEE-15L-T4.16	450	380	158	25	330	400	8,5	3/4"	360	215	570
VEE-50L-T4.4	700	500	220	25	450	650	8,5	1"	420	170	820
VEE-50L-T4.8	700	500	220	25	450	650	8,5	1"	420	170	820
VEE-50L-T4.16	700	500	220	25	450	650	8,5	1"	420	215	820
VEE-50L-T4.25	700	500	220	25	450	650	8,5	1"	420	290	820
VEE-50L-T4.40	700	500	220	25	450	650	8,5	1"	420	290	820
VEE-100L-T4.16	700	600	320	25	550	650	8,5	38	520	215	820
VEE-100L-T4.25	700	600	320	25	550	650	8,5	38	520	290	820
VEE-100L-T4.40	700	600	320	25	550	650	8,5	38	520	290	820
VEE-200L-T4.25	1000	800	338	25	750	950	11	38	540	290	1120
VEE-200L-T4.40	1000	800	338	25	750	950	11	38	540	290	1120

<b>Dimensions</b>											
Type	A	B	C	F	G	H	P	S	U	V	W
								LW			max.
VEE-15L-016.1	450	380	158	25	330	400	8,5	3/4"	360	340	570
VEE-50L-016.1	700	500	220	25	450	650	8,5	1"	420	340	820
VEE-50L-025.1	700	500	220	25	450	650	8,5	1"	420	465	820
VEE-50L-040.1	700	500	220	25	450	650	8,5	1"	420	465	820
VEE-50L-063.1	700	500	220	25	450	650	8,5	1"	420	495	820
VEE-50L-0100.1	700	500	220	25	450	650	8,5	1"	420	510	820
VEE-100L-016.1	700	600	320	25	550	650	8,5	38	520	340	820
VEE-100L-025.1	700	600	320	25	550	650	8,5	38	520	465	820
VEE-100L-040.1	700	600	320	25	550	650	8,5	38	520	465	820
VEE-100L-063.1	700	600	320	25	550	650	8,5	38	520	495	820
VEE-100L-0100.1	700	600	320	25	550	650	8,5	38	520	510	1020
VEE-100L-0160.1	700	600	320	25	550	650	8,5	38	520	605	820
VEE-200L-016.1	1000	800	338	25	750	950	11	38	540	340	1120
VEE-200L-025.1	1000	800	338	25	750	950	11	38	540	465	1120
VEE-200L-040.1	1000	800	338	25	750	950	11	38	540	465	1120
VEE-200L-063.1	1000	800	338	25	750	950	11	38	540	495	1120
VEE-200L-0100.1	1000	800	338	25	750	950	11	38	540	510	1120
VEE-200L-0160.1	1000	800	338	25	750	950	11	38	540	605	1120
VEE-200L-0250.1	1000	800	338	25	750	950	11	38	540	665	1120

**Description**

According to the German UVV\* 18 vacuum load lifting devices have to be furnished with devices for balancing vacuum losses. Our vacuum tanks meet these regulations. The provided vacuum prevents the sudden release of work pieces in case of a power failure and can even out leakage losses. The vacuum tanks are suitable for mounting of any vacuum pump and are delivered with 2/2-way-ball valve, hose nipples and vacuum gauge. Water level suction or 2/2-way-ball valve instead of drain screw optional on request.

\* UVV = Accident Prevention Regulations



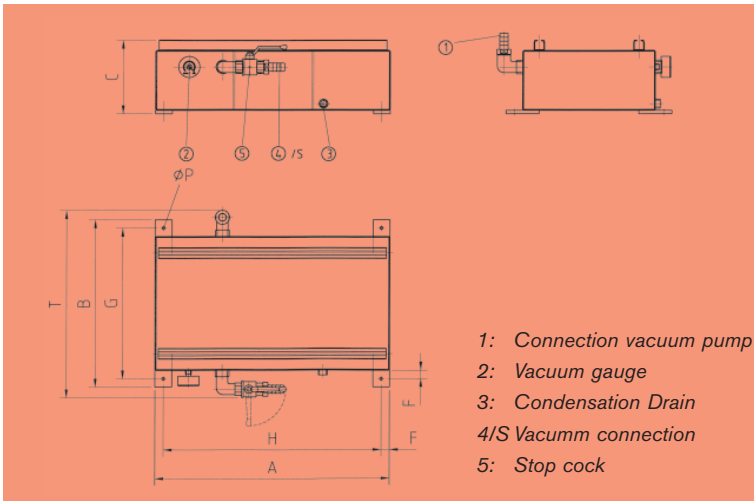
Vacuum flat tank

**Article numbers**

Type	Vacuum flat tank
VSF-15L	1.42.0.0002
VSF-50L	1.42.0.0004
VSF-100L	1.42.0.0001
VSF-200L	1.42.0.0003

**Technical Data**

Type	Weight (kg)	Volume (l)	Stop cock
VSF-15L	10	15	R 3/4"
VSF-50L	20	50	R 1"
VSF-100L	48	100	R 1"
VSF-200L	75	200	R 1"



Vacuum flat tank

<b>Dimensions</b>									
Type	A	B	C	D	E	F	G	H	K
VSF-15L	450	380	158	280	103	128	330	400	210
VSF-50L	700	500	220	400	140	190	450	650	300
VSF-100L	700	600	320	500	240	290	550	650	300
VSF-200L	1000	800	338	700	258	308	750	950	300

<b>Dimensions</b>									
Type	L	M	N	P	R	T	1	3	4/S LW
VSF-15L	50	120	350	8,5	30	398	R 3/4"	R 1/2"	3/4"
VSF-50L	100	200	500	8,5	30	560	R 1"	R 1/2"	38
VSF-100L	100	200	500	8,5	30	692	R 1 1/4"	R 1/2"	38
VSF-200L	100	200	800	11	28	912	R 1 1/2"	R 1/2"	38

**5**  
Vacuum generators

**Description**

For vacuum generators, which are run in connection with a vacuum tank. A vacuum limit switch automatically turns on the vacuum generator through an adjustable differential pressure and when reaching the adjusted maximum vacuum it turns off again. This enlargens the lifespan of the pump and saves energy.

Standard scope of supply: Switch housing with transformer, cantactor, motor protection switch and terminal block. One PG-screw per electro-supply and motor connection. Firmly mounted underpressure switch UDSD-1-1-G1/4 with 1.5 m long cable for mounting into vacuum tank.



Vacuum-controlled motor switch with housing

**Advice:**

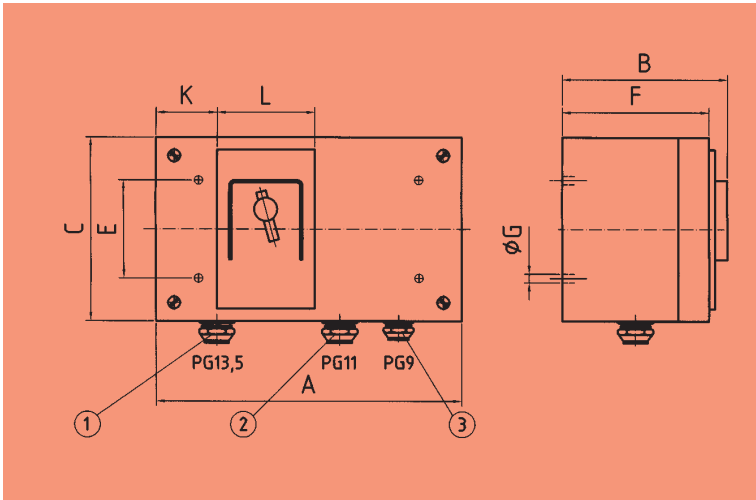
When ordering, always indicate the electrical power of the vacuum pump!

**Article numbers**

Type	
VMS-2,2KW	6.36.1.0010
VMS-4,0KW	6.36.1.0005
VMS-7,5KW	6.36.1.0006
VMS-12,5KW	6.36.1.0007

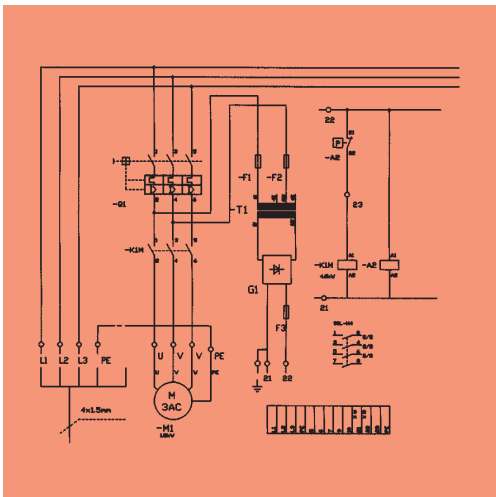
**Technical Data**

Type	VMS-2,2	VMS-4,0	VMS-7,5	VMS-12,5
Mains Voltage	230 / 3x400V	230 / 3x400V	230 / 3x400V	230 / 3x400V
Control Voltage	24V	24V	24V	24V
max. motor rating	0,25 - 2,2kW	2,3 - 4kW	4,5 - 7,5kW	8 - 12,5kW
Vacuum area	steplessly adjustable with freely selectable hysteresis			



Electric box with vacuum-controlled motor switch

<b>Dimensions</b>									
Type	A	B	C	D	E	F	G	K	L
Motor switch	250	135	150	180	80	120	7	50	80



Electric diagram of vacuum-controlled motor switch

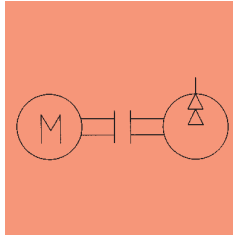
**Description**

Suitable for work, in which high volume flows and a low vacuum are necessary, as for transport of chipboards, porous stones and other permeable materials.

Robust, for continuous operation suitable side channel compressor with flywheel. (For vacuum load lifting devices according to the German UVV\* 18). The flywheel guarantees highest safety standards in case of power failures. All compressor- and motor parts are made of aluminium casting, which makes them non-corroding. Good heat dissipation. Maintenance-free working is guaranteed by well-dimensioned bearings. Mounted silencers keep the noise low.



Reversing



Switching diagram blower



Vacuum blower SD 4 - SD 8

\* UVV = Accident Prevention Regulations

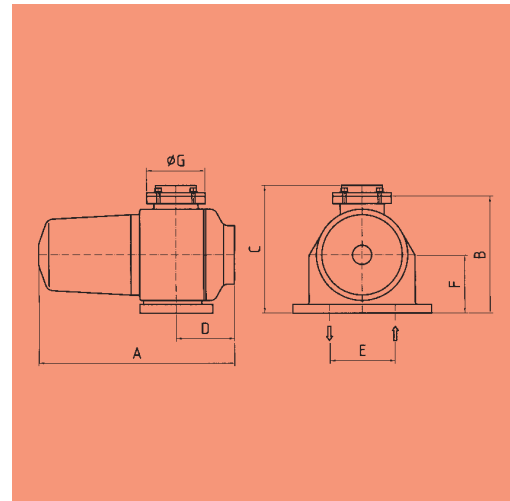
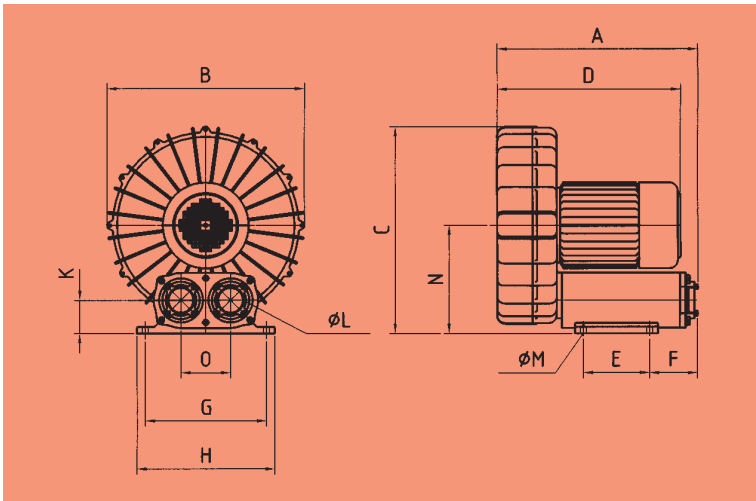
<b>Article numbers</b>				
Type	Vacuum blowers without reversing	Vacuum blowers with Reversing	Reversing RA 230 V	Motor protection switch
VG-SD4	1.43.1.0010	1.43.1.0009	1.43.3.0009	6.33.3.0003
VG-SD6	1.43.1.0013	1.43.1.0012	1.43.3.0010	6.33.3.0004
VG-SD8	1.43.1.0014	1.43.1.0015	1.43.3.0011	6.33.3.0004

\*) Blower SD8 without flywheel!  
Motor protection switch with housing

<b>Technical Data Vacuum blower</b>			
	VG-SD4	VG-SD6	VG-SD8
max. under pressure (mbar) <sup>2)</sup>	180	300	300
suction capacity (m <sup>3</sup> /h) <sup>2)</sup>	168	276	540
Nominal voltage AC (V)	230/ 400	230/ 400	Δ 400
Current consumption AC (A)	4/ 2,3	9/ 5,2	11,8
Motor rating (kW)	0,95	2,3	5,5
Motor speed (1/min)	2730	2870	2880
Sound level (dB(A))	< 75	< 75	< 75
Weight (kg)	22	33	81
Ambient temperature (°C)	- 20 bis + 40	- 20 bis + 40	- 20 bis + 40
Safety type	IP 54	IP 54	IP 54

1) Measuring according to DIN 45635; when blowing over the hose line  
2) The indicated values are valid with a tolerance of ± 10 %

<b>Technical Data Reversing</b>			
	RA-SD4	RA-SD6	RA-SD8
Switching cycles (1/min)	< 30	< 30	< 30
Switching times(ms)	700	700	700
Temperature range (°C)	-20 bis +40	-20 bis +40	-20 bis +40
Nominal voltage (AC)	230 V, 50 Hz	230 V, 50 Hz	230 V, 50 Hz
Current consumption (A)	0,041	0,041	0,1
Weight (kg)	4,3	5,9	8,7

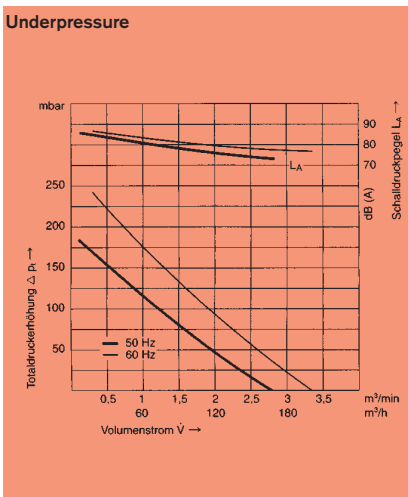


Vacuum blowers SD 4 - SD 8

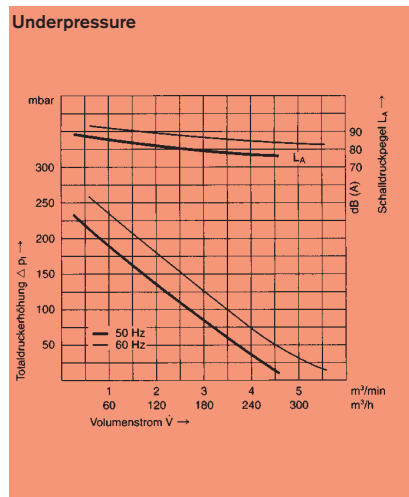
<b>Dimensions Vacuum blower</b>													
Type	A	B	C	D	E	F	G	H	K	L	M	N	O
VG-SD 4	357	358	375	332	120	66	220	250	60	45	11	196	90
VG-SD 6	435	396	423	383	160	72	310	350	80	55	13	225	125
VG-SD 8	530	500	532	510	260	43	365	420	85	65	14	282	145

<b>Dimensions</b>							
Type	A	B	C	D	E	F	G
RA-SD4	256	160	175	80	90	80	R 1 1/2"
RA-SD6	278	185	200	95	125	95	R 2"
RA-SD8	340	210	230	104	145	105	R 2 1/2"

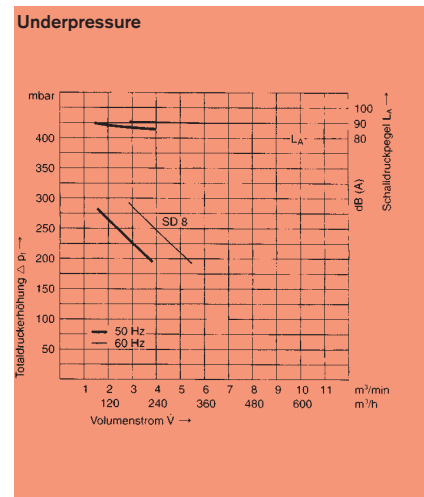
**5**  
Vacuum generators



Vacuum blower SD 4



Vacuum blower SD 6

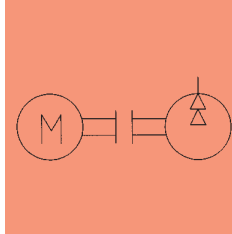


Vacuum blower SD 8

**Description**

For applications which require a high volume stream and a low vacuum, like transporting chip-board plates, porous stones or other air-penetrable materials.

Single-stage compressors in robust aluminium casting design, suitable for continuous use (VG-500 in grey cast iron design). The non-contact motion allows an almost wear-resistant and maintenance-free operation along with little operation noise due to good sound absorbers. For each blower a reversing unit with "suction/blow" control and neutral position is available. Vacuum blower VG-1100-D1 on request!



Switching diagram blower



Vacuum blowers VG-080-D1 to VG-500-D1

**Article numbers**

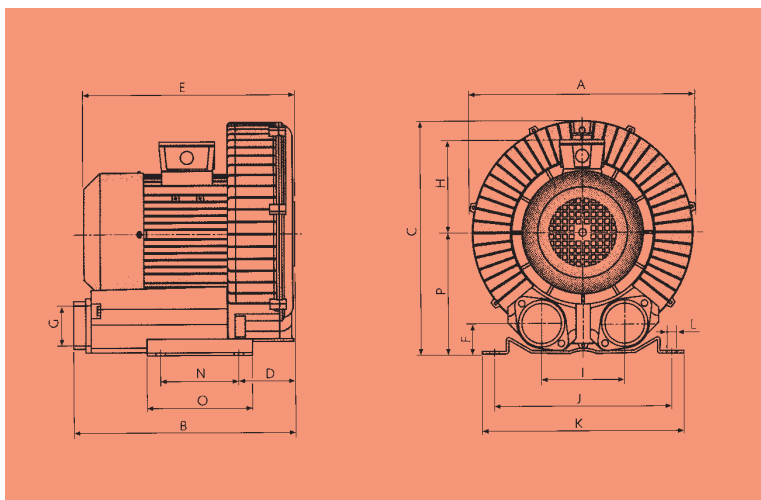
Type	Vacuum blower without reversing	Reversing 230 V	Motor protection switch
VG-080-D1	1.43.1.0016	on request	6.33.3.0003
VG-140-D1	1.43.1.0017	on request	6.33.3.0003
VG-210-D1	1.43.1.0018	on request	6.33.3.0003
VG-315-D1	1.43.1.0019	on request	6.33.3.0003
VG-500-D1	1.43.1.0020	on request	6.33.3.0004

Motor protection switch with housing

**Technical Data**

	VG-080-D1	VG-140-D1	VG-210-D1	VG-315-D1	VG-500-D1
Mounting position	arbitrary	arbitrary	arbitrary	arbitrary	arbitrary
max. underpressure(mbar) <sup>2)</sup>	120	120	170	210	170
max overpressure(mbar) <sup>2)</sup>	130	120	170	200	170
Suction volume (m <sup>3</sup> /h) <sup>2)</sup>	80	140	210	315	500
Nominal voltage AC (V)	230/400	230/400	230/400	230/400	230/400
Current consumption AC (A)	3,7/1,8	4,3/2,5	5,8/3,0	9,7/5,5	9,6/5,7
Motor rating (kW)	0,4	0,7	1,3	2,2	4,0
Motor speed (1/min)	2850	2850	2850	2850	2850
Sound level (dB (A)) <sup>1)</sup>	58	63	66	70	71
Weight (kg)	10	13	20	29	112
Safety type	IP 55	IP 55	IP 55	IP 55	IP 55
Isolationsklasse	F	F	F	F	F

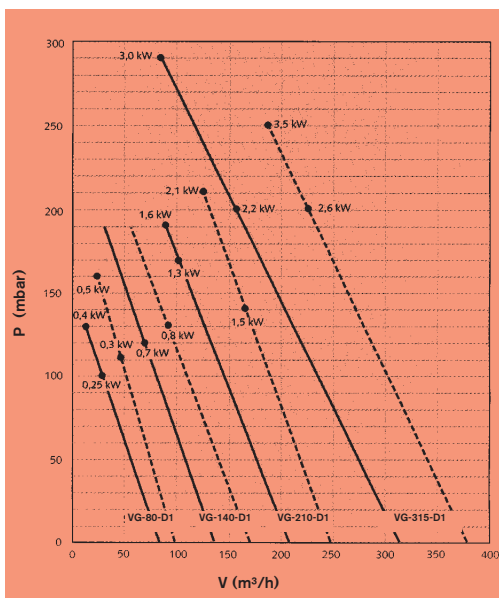
1) Measuring according to DIN 45635; when blowing over the hose line  
 2) The indicated values are valid with a tolerance of ± 10 %



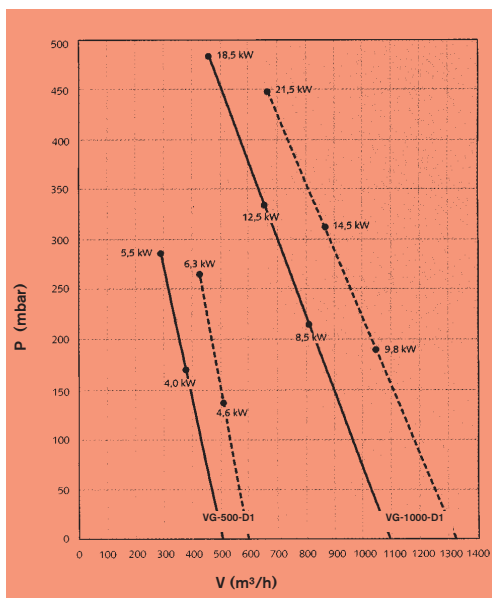
Vacuum blowers VG-080-D1 to VG-500-D1

<b>Dimensions</b>															
Type	A	B	C	D	E	F	G	H	I	J	K	L	N	O	P
VG-080-D1	248	230	250	72	259	39	R11/4	111	90	205	230	10	83	108	130
VG-140-D1	287	241	305	76	272	46	R11/2	131	115	225	225	12	95	130	156
VG-210-D1	336	298	340	87	317	48	R2	159	120	260	295	14	115	155	177
VG-315-D1	383	333	386	109	380	54	G2	183	125	290	325	15	140	180	200
VG-500-D1	500	496	516	35	473	81	G21/2	-	145	365	420	15	280	316	267

**5**  
Vacuum generators



Characteristic lines VG-080-D1 to VG-315-D1



Characteristic lines VG-500-D1

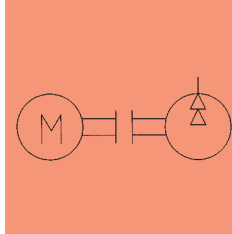
### Description

For applications which require a high volume stream and a low vacuum, like transporting chip-board plates, porous stones or other air-penetrable materials.

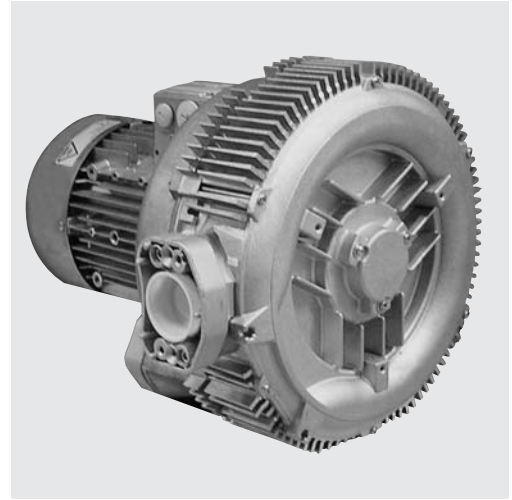
Robust double-stage side channel compressors in light aluminium die-cast design (VG-500 in grey cast iron design). This double-stage design produces a higher difference pressure than the single-stage design which leads to higher holding capacities.

For each blower a reversing unit with "suction-release" control and one neutral setting is available.

Vacuum blower VG-1100-D2 on request!



Switching diagram blower



Vacuum blowers VG-085-D2 to VG-500-D2

### Article numbers

Type	Vacuum blower without reversing	Reversing 230 V	Motor protection switch
VG-085-D2	1.43.1.0021	on request	6.33.3.0003
VG-150-D2	1.43.1.0022	on request	6.33.3.0004
VG-210-D2	1.43.1.0023	on request	6.33.3.0004
VG-310-D2	1.43.1.0024	on request	6.33.3.0005
VG-500-D2	1.43.1.0025	on request	6.33.3.0006

Motor protection switch with housing

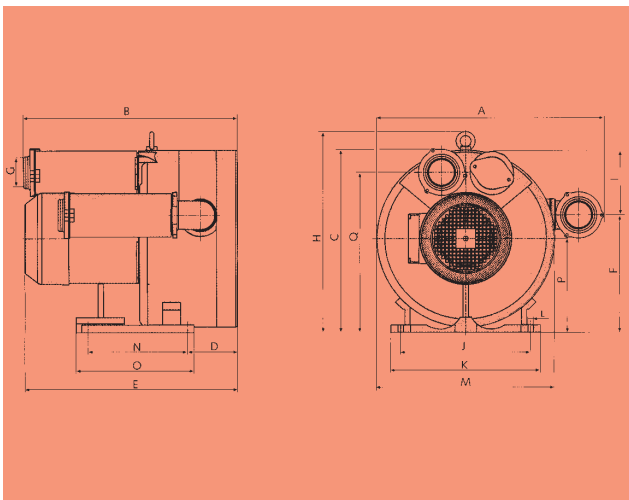
### Technical Data

	VG-085-D2	VG-150-D2	VG-210-D2	VG-310-D2	VG-500-D2
Mounting position	beliebig	beliebig	beliebig	beliebig	beliebig
max. underpressure (mbar) <sup>2)</sup>	210	300	340	360	400
max overpressure (mbar) <sup>2)</sup>	240	380	410	380	400
Suction volume (m <sup>3</sup> /h) <sup>2)</sup>	85	150	210	310	500
Nominal voltage AC (V)	230/ 400	230/ 400	230/ 400	230/ 400	230/ 400
Current consumption AC (A)	4,3/2,5	9,7/5,5	12,6/7,4	10,3/6,1	17,0/9,8
Motor rating (kW)	0,7	2,2	3,0	4,3	7,5
Motor speed (1/min)	2850	2850	2850	2850	2850
Sound level (dB (A)) <sup>1)</sup>	60	66	74	75	75
Weight (kg)	14	34	39	53	169
Safety type	IP 55	IP 55	IP 55	IP 55	IP 55
Insulation class	F	F	F	F	F

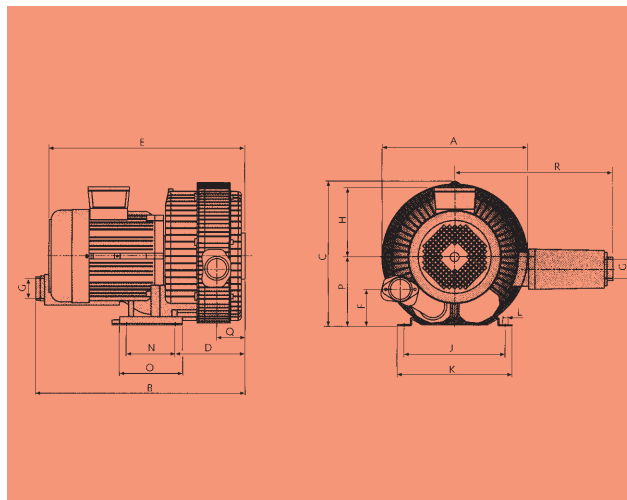
1) Measuring according to DIN 45635; when blowing over the hose line

2) The indicated values are valid with a tolerance of ± 10 %

# VACUUM BLOWER IN DOUBLE-STAGE DESIGN VG-...-D2



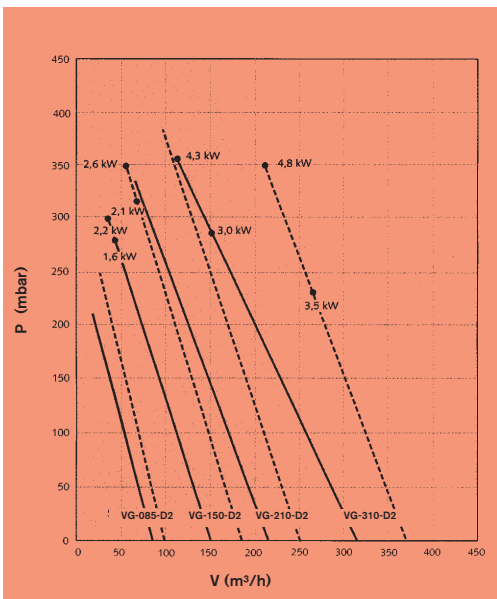
Vacuum blowers VG-085-D2 to VG-310-D2



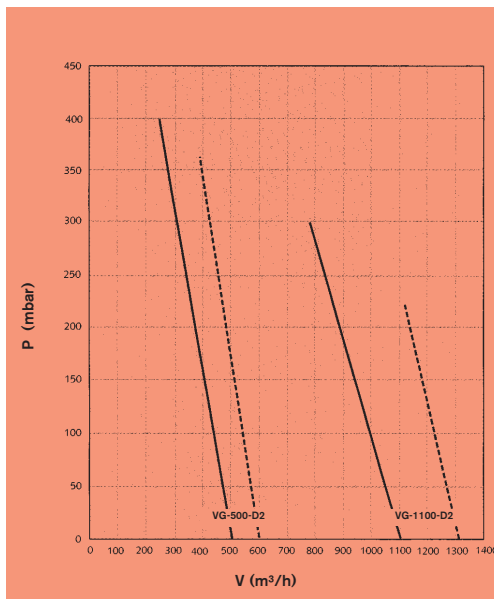
Vacuum blower VG-500-D2

<b>Dimensions</b>																
Type	A	B	C	D	E	F	G	H	J	K	L	N	O	P	Q	R
VG-085-D2	286	289	273	131	319	39	G11/4	111	205	230	10	83	108	130	30	318
VG-150-D2	323	317	318	152	404	46	G11/2	128	225	255	12	95	130	56	46	323
VG-210-D2	372	384	374	135	468	48	G2	135	260	295	14	115	155	177	55	413
VG-310-D2	428	429	423	205	476	54	G2	128	290	325	15	140	180	200	76	426
VG-500-D2	638	603	516	141	601	333	G21/2	569	365	420	15	280	316	267	453	183

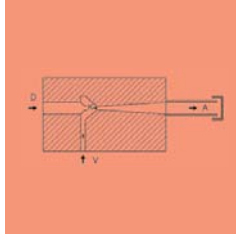
**5**  
Vacuum generators



Characteristic lines VG-085-D2 to VG-310-D2



Characteristic lines VG-500-D2 and VG-1100-D2



**How the ejectors work**

Ejectors work according to the venturi principle. Filtered and oil-free compressed air D streams into a chamber K. Because of the reduction of the cross-section in this chamber the air is accelerated to supersonic speed. Because of the design of the reduction of the cross-section and the high flow speed a vacuum is created in chamber K. Air is suspended through the connection V. After escaping from chamber K the compressed air expands together with the suspended air into a silencer as exhaust air A.



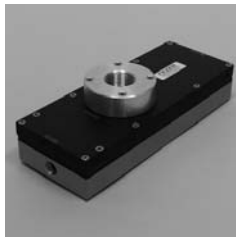
**Inline-Ejektoren**

Very compact and small ejectors with a volume stream of up to 20 l/min. The inline ejectors are directly screwed onto the suction cup. They are controlled by a pneumatic valve. As soon as the compressed air streams through the ejector a vacuum is created. Once the compressed air is switched off the suction cup is ventilated by the atmosphere at the vent hole.



**Basic ejectors**

Efficient and robust ejectors with a volume stream of up to 160 l/min. Designs for high vacuum (HS) and high volume stream at lower vacuum (LS). For direct use on big suction plates or for central vacuum supply of bigger suction circuits with several suction cups. Also available with integrated vacuum switches.



**Multi-stage ejektors**

Multi-stage ejectors consist of several ejectors placed parallel and connected in series, showing an enormous suction (up to 10.000 l/min). The ejectors are suitable for the transport of porous work pieces with a relatively small air consumption.

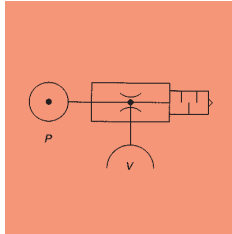
<b>Overview Technical Data of ejectors</b>			
	<i>Inline ejectors</i>	<i>Basic ejectors</i>	<i>Multi-stage ejectors</i>
<b>nozzle diameter (mm):</b>	0,5 - 0,9	0,5 - 3,0	0,5 - 3,0
<b>max. vacuum (%):</b>	90	85	90
<b>Suction volume (l/min):</b>	7 - 21	6 - 350	300 - 9600
<b>Air consumption (l/min):</b>	12 - 36	13 - 385	70 - 2880
<b>Blow rating (l/min):</b>	---	---	---
<b>Weight:</b>	15 g	0,08 - 0,85 kg	0,6 - 9,5 kg

**Marking of basic and multi-stage ejectors**

VEI	<i>Inline ejector</i>
VEP	<i>Basic ejector</i>
VEP-VSM	<i>Basic ejector with mechanical vacuum switch</i>
VEP-VESM	<i>Basic ejector with electronic vacuum switch</i>
VIP	<i>Basic ejector with pressure reducer and stopcock</i>
VEM	<i>Multi-stage ejector</i>

**Description**

Inline ejector with small size and weight. The ejector works after the Venturi principle, has no movable parts and is therefore almost maintenance-free. There are connecting threads on either side, thus the ejector can be directly screwed onto the suction cup. Space-saving mounting and very short suction times are possible. Especially suitable for high cycle times, constricted space, on robots or in automation technology.



Switching diagram  
 V Vacuum connection  
 P Compressed air connection



Inline ejector VEI-A

General Data	
Type	Vacuum ejector
Medium	dry, oil-free air
Operational pressure(bar)	2 to 6
Temperature range (°C)	0 to 80
Material	Aluminium

Article numbers	
Type	Vacuum ejector
VEI-A-05	1.44.1.0001
VEI-A-07	1.44.1.0002
VEI-A-09	1.44.1.0003

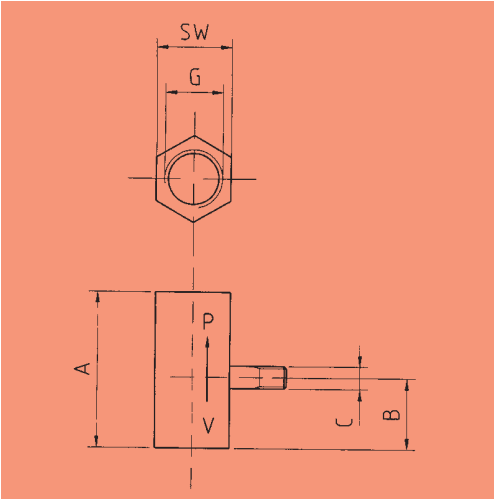
**5**  
Vacuum generators

Technical Data					
Type	Nozzle Ø (mm)	max. vacuum (%)	Volume stream (l/ min)	Air consumption (l/ min)	Weight (g)
VEI-A-05	0,5	87	7	12	15
VEI-A-07	0,7	90	14	21	15
VEI-A-09	0,9	90	21	36	15

\*) all indications with 5 bar operational pressure

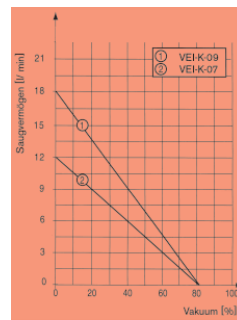
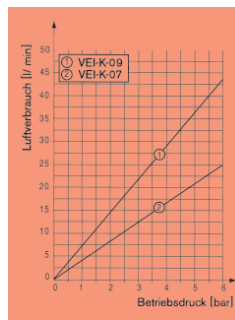
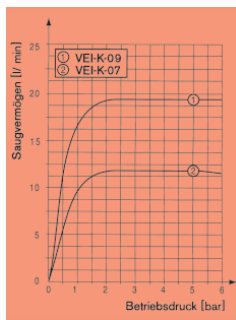
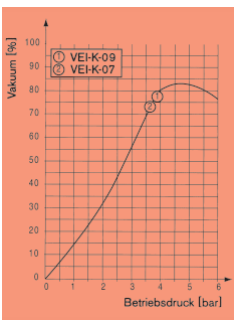
Evacuation time for evacuating a volume of 1 litre								
	10 % (s)	20 % (s)	30 % (s)	40 % (s)	50 % (s)	60 % (s)	70 % (s)	80 % (s)
VEPA-05	10	11,5	13,3	15,8	21,4	30	46,2	75
VEPA-07	4,7	5,5	6,3	8	9,8	13,3	20	40
VEPA-09	3,2	3,7	4,3	5,4	6,5	8,8	13,3	27,3

\*) all indications with 5 bar operational pressure



Inline ejector VEI-A

Dimensions					
Type	A	B	C	G	SW
VEI-A...	35	16	M 5	R 1/4"	17



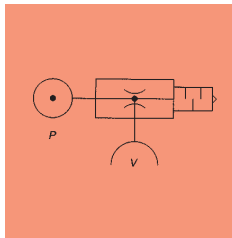
**Description**

Single-stage ejector of small size and weight, especially suitable for the use in the field of material handling. The ejector works after the Venturi-principle. The ejector does not develop any warmth and has no movable parts and thus is easy to maintain.

The space-saving mounting makes it suitable for use in the smallest areas or for mounting on roboters and other automatization devices.



Vacuum ejector



Switching diagram

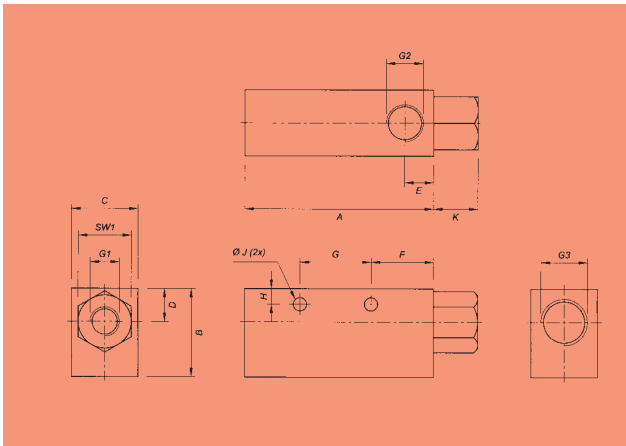


Vacuum ejector

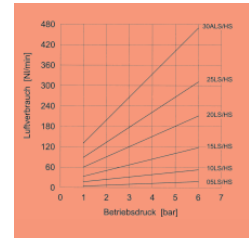
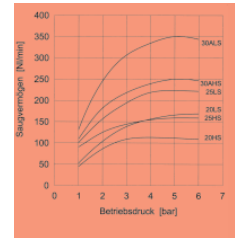
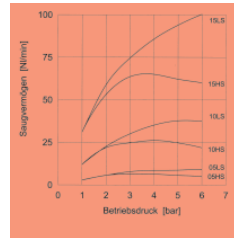
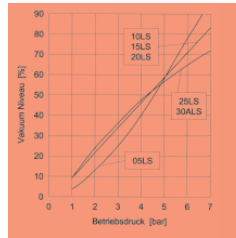
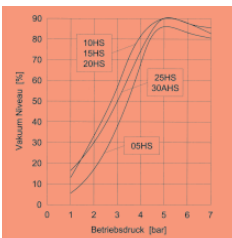
General Data	
Type	
Medium	dry, oil-free air
Operational pressure(bar)	1 to 8
Temperature range (°C)	0 to 60
Material	anodized aluminium, brass

Article numbers		
Type	Vacuum ejector	Replacement silencer
VEP-05 HS	1.44.1.0008	2.44.1.0001
VEP-05 LS	1.44.1.0011	2.44.1.0001
VEP-10 HS	1.44.1.0014	2.44.1.0001
VEP-10 LS	1.44.1.0017	2.44.1.0001
VEP-15 HS	1.44.1.0020	2.44.1.0003
VEP-15 LS	1.44.1.0023	2.44.1.0003
VEP-20 HS	1.44.1.0026	2.44.1.0004
VEP-20 LS	1.44.1.0029	2.44.1.0004
VEP-25 HS	1.44.1.0032	2.44.1.0005
VEP-25 LS	1.44.1.0033	2.44.1.0005
VEP-30 HS	1.44.1.0034	2.44.1.0005
VEP-30 LS	1.44.1.0035	2.44.1.0005

Technical Data					
Type	Nozzle Ø (mm)	max. vacuum (%)	Volume stream (l/ min)	Air consumption (l/ min)	Weight (kg)
VEP-05 HS	0,5	86	6	13	0,08
VEP-05 LS	0,5	56	9	13	0,08
VEP-10 HS	1,0	82	27	44	0,08
VEP-10 LS	1,0	57	36	44	0,08
VEP-15 HS	1,5	79	63	100	0,14
VEP-15 LS	1,5	60	95	100	0,14
VEP-20 HS	2,0	86	110	180	0,35
VEP-20 LS	2,0	64	165	180	0,35
VEP-25 HS	2,5	89	160	265	0,73
VEP-25 LS	2,5	65	250	265	0,73
VEP-30 HS	3,0	89	225	385	0,85
VEP-30 LS	3,0	64	350	385	0,85



Vacuum ejectors



### Dimensions

Type	A	B	C	D	E	F	G	H	J	K	L	M	G1	G2	SW1 LW
VEP-05 HS/LS	45	33	16	10	8	14	20	4,5	4,2	10	36	18,5	G 1/8"	G 1/8"	14
VEP-10 HS/LS	45	33	16	10	8	14	20	4,5	4,2	10	36	18,5	G 1/8"	G 1/8"	14
VEP-15 HS/LS	63	35	20	11	10	20	25	5	4,5	15	45,5	20	G 1/4"	G 1/4"	17
VEP-20 HS/LS	85	40	30	15	13	28	32	7	6	20	60,5	30	G 1/4"	G 3/8"	24
VEP-25 HS/LS	100	60	40	20	16	20	50	5,5	6	17	96	40	G 3/8"	G 1/2"	28
VEP-30 HS/LS	118	60	40	20	20	33	50	5,5	6	20	96	40	G 1/2"	G 3/4"	30

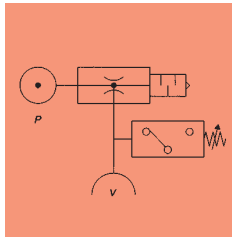
### Evacuation time for evacuating a volume of 1 litre

	10 % (s)	20 % (s)	30 % (s)	40 % (s)	50 % (s)	60 % (s)	70 % (s)	80 % (s)
VEP-05 HS	1,12	2,36	3,74	5,52	7,82	11,02	15,2	24,73
VEP-05 LS	0,61	1,31	2,33	3,75	7,07	--	--	--
VEP-10 HS	0,25	0,51	0,89	1,33	1,87	2,5	3,61	5,84
VEP-10 LS	0,17	0,34	0,6	0,94	1,46	2,31	--	--
VEP-15 HS	0,13	0,24	0,4	0,6	0,89	1,22	1,79	3,32
VEP-15 LS	0,09	0,16	0,27	0,45	0,76	1,97	--	--
VEP-20 HS	0,08	0,13	0,22	0,34	0,51	0,7	1,01	1,46
VEP-20 LS	0,05	0,09	0,13	0,21	0,33	0,58	--	--
VEP-25 HS	0,05	0,09	0,16	0,22	0,32	0,44	0,62	0,88
VEP-25 LS	0,05	0,08	0,11	0,17	0,26	0,45	--	--
VEP-30 HS	0,05	0,08	0,11	0,16	0,22	0,3	0,41	0,6
VEP-30 LS	0,05	0,05	0,09	0,12	0,19	0,38	--	--

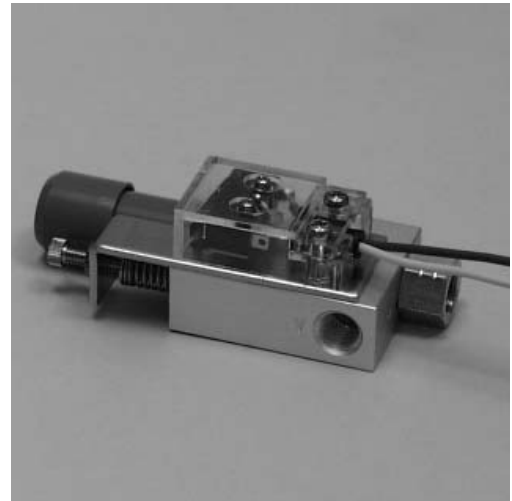
all indications with 5,5 bar operational pressure

**Description**

Single-stage ejector of small size and weight with integrated mechanical underpressure switch. The switching point of the underpressure switch can be adjusted by a screw from -0,2 bar to -0,5 bar. The ejector works according to the venturi principle and is especially suitable for material handling. The space-saving build allows mounting in constricted places. The ejector does not develop any warmth and has no movable parts.



Switching diagram

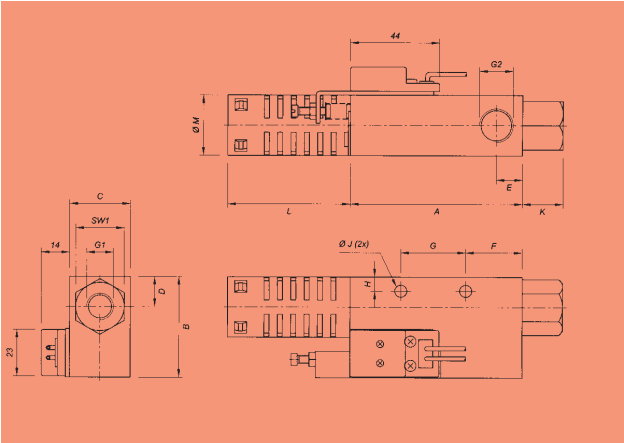


Ejector with mechanical underpressure switch

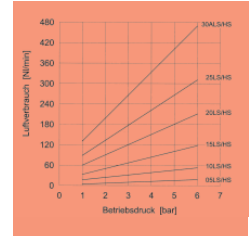
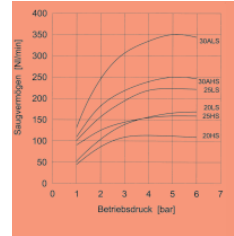
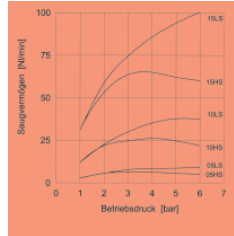
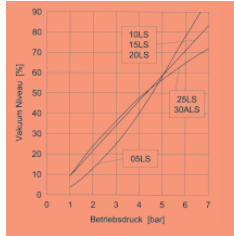
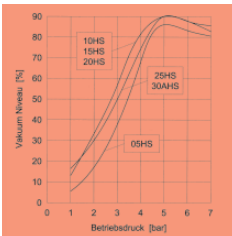
General Data	
Type	Vacuum ejector with underpressure switch
Medium	dry, oil-free air
Operational pressure (bar)	1 to 8
Temperature range (°C)	0 to + 60
Material	anodized aluminium, brass
Adjustment range (bar)	- 0,2 to - 0,53
Repetitive accuracy (mbar)	± 50
Hysteresis (mbar)	40 to 133

Article numbers		
Type	Vacuum ejector	Replacement silencer
VEP-05 HS-VSM	1.44.1.0010	2.44.1.0001
VEP-05 LS-VSM	1.44.1.0013	2.44.1.0001
VEP-10 HS-VSM	1.44.1.0016	2.44.1.0001
VEP-10 LS-VSM	1.44.1.0019	2.44.1.0001
VEP-15 HS-VSM	1.44.1.0022	2.44.1.0003
VEP-15 LS-VSM	1.44.1.0025	2.44.1.0003
VEP-20 HS-VSM	1.44.1.0028	2.44.1.0004
VEP-20 LS-VSM	1.44.1.0031	2.44.1.0004

Technical Data					
Type	Nozzle Ø (mm)	max. vacuum (%)	Volume stream (l/ min)	Air consumption (l/ min)	Weight (kg)
VEP-05 HS-VSM	0,5	86	6	13	0,12
VEP-05 LS-VSM	0,5	56	9	13	0,12
VEP-10 HS-VSM	1,0	82	27	44	0,12
VEP-10 LS-VSM	1,0	57	36	44	0,12
VEP-15 HS-VSM	1,5	79	63	100	0,19
VEP-15 LS-VSM	1,5	60	95	100	0,19
VEP-20 HS-VSM	2,0	86	110	180	0,46
VEP-20 LS-VSM	2,0	64	165	180	0,46



Ejector with mechanical underpressure switch



**Dimensions**

Type	A	B	C	D	E	F	G	H	J	K	L	M	G1	G2	SW1
VEP-05 HS/LS-VSM	45	33	16	10	8	14	20	4,5	4,2	10	37	18,5	G 1/8"	G 1/8"	14
VEP-10 HS/LS-VSM	45	33	16	10	8	14	20	4,5	4,2	10	37	18,5	G 1/8"	G 1/8"	14
VEP-15 HS/LS-VSM	63	35	20	11	10	20	25	5	4,5	15	46,5	20	G 1/4"	G 1/4"	17
VEP-20 HS/LS-VSM	85	50	30	15	13	28	32	7	6	20	60,5	30	G 1/4"	G 3/8"	24

**Evacuation time for evacuating a volume of 1 litre**

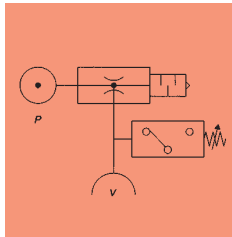
	10 % (s)	20 % (s)	30 % (s)	40 % (s)	50 % (s)	60 % (s)	70 % (s)	80 % (s)
VEP-05 HS-VSM	1,12	2,36	3,74	5,52	7,82	11,02	15,2	24,73
VEP-05 LS-VSM	0,61	1,31	2,33	3,75	7,07	--	--	--
VEP-10 HS-VSM	0,25	0,51	0,89	1,33	1,87	2,5	3,61	5,84
VEP-10 LS-VSM	0,17	0,34	0,6	0,94	1,46	2,31	--	--
VEP-15 HS-VSM	0,13	0,24	0,4	0,6	0,89	1,22	1,79	3,32
VEP-15 LS-VSM	0,09	0,16	0,27	0,45	0,76	1,97	--	--
VEP-20 HS-VSM	0,08	0,13	0,22	0,34	0,51	0,7	1,01	1,46

all indications with 5,5 bar operational pressure

### Description

Single-stage ejector of small size and weight with integrated electronic underpressure switch. The switching point is adjustable by a potentiometer. The underpressure switch is connected to the ejector and what makes it stand out is the precise switching accuracy and its short response times.

The space-saving design and the low weight makes the ejector especially suitable for applications with high accelerations and restricted space conditions (robot technology, pick&place applications).



Switching diagram



Ejector with electronic underpressure switch

General Data	
Type	Vacuum ejector with underpressure switch
Medium	dry, oil-free air
Operational pressure (bar)	1 to 8
Temperature range (°C)	0 to + 60
Material	anodized aluminium, brass
Adjustment range (bar)	-1 to 0
Repetitive accuracy	± 0,2 % F.S.
Hysteresis (mbar)	2 % F.S.

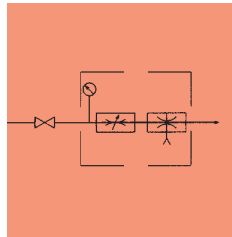
Article numbers			
Type	Vacuum ejector	Underpressure switch	Replacement silencer
VEP-05HS-VSEM	1.44.1.0009	1.52.3.0016	2.44.1.0001
VEP-05LS-VSEM	1.44.1.0012	1.52.3.0016	2.44.1.0001
VEP-10HS-VSEM	1.44.1.0015	1.52.3.0016	2.44.1.0001
VEP-10LS-VSEM	1.44.1.0018	1.52.3.0016	2.44.1.0001
VEP-15HS-VSEM	1.44.1.0021	1.52.3.0016	2.44.1.0003
VEP-15LS-VSEM	1.44.1.0024	1.52.3.0016	2.44.1.0003
VEP-20HS-VSEM	1.44.1.0027	1.52.3.0016	2.44.1.0004
VEP-20LS-VSEM	1.44.1.0030	1.52.3.0016	2.44.1.0004

Technical Data					
Type	Nozzle Ø (mm)	max. vacuum (%)	Volume stream (l/ min)	Air consumption (l/ min)	Weight (kg)
VEP-05HS-VSEM	0,5	86	6	13	0,12
VEP-05LS-VSEM	0,5	56	9	13	0,12
VEP-10HS-VSEM	1,0	82	27	44	0,12
VEP-10LS-VSEM	1,0	57	36	44	0,12
VEP-15HS-VSEM	1,5	79	63	100	0,19
VEP-15LS-VSEM	1,5	60	95	100	0,19
VEP-20HS-VSEM	2,0	86	110	180	0,46
VEP-20LS-VSEM	2,0	64	165	180	0,46



**Description**

Single-stage ejector complete with housing with steplessly adjustable pressure reducer, vacuum gauge, stopcock and hose nipples. The ejector works according to the venturi principle. In space-saving design suitable for restricted places. The ejector develops no warmth and has no movable parts.



Switching diagram



VIP-8 SP

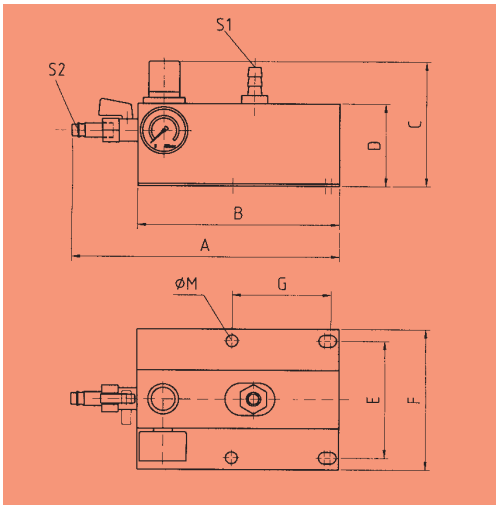
<b>General Data</b>	
Type	VIP 8 SP
Medium	dry, oil-free air
Operational pressure(bar)	1 to 7
Temperature range (°C)	0 to 60

<b>Article numbers</b>	
Type	VIP 8
VIP-8SP-5,0CBM	1.44.1.0036

**5**  
Vacuum generators

<b>Technical Data</b>					
Type	Nozzle Ø (mm)	max. vacuum (%)	Volume stream (l/ min)	Air consumption max. (l/ min)	Weight (kg)
VIP 8 SP	1,2	85	0 - 80	65	1,1

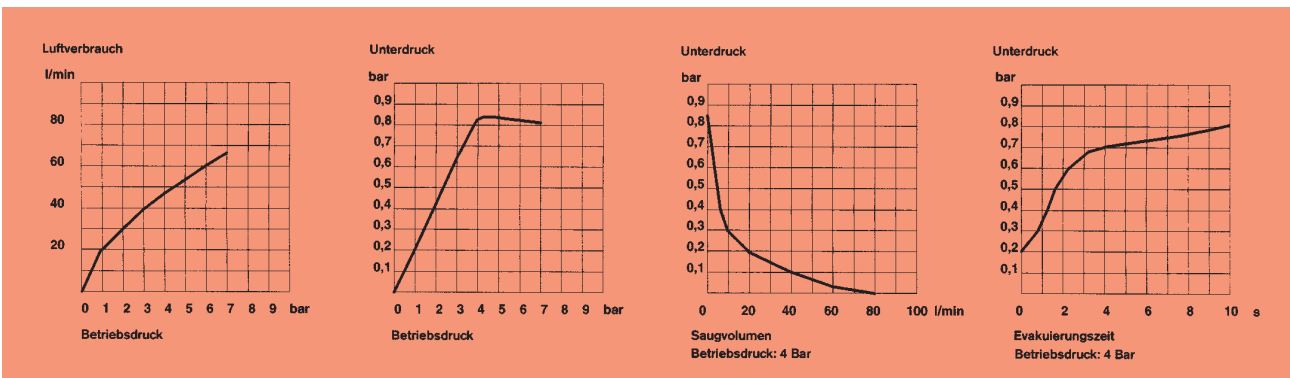
<b>Evacuation time for evacuating a volume of 1 litre</b>								
	10 % (s)	20 % (s)	30 % (s)	40 % (s)	50 % (s)	60 % (s)	70 % (s)	80 % (s)
VIP 8 SP	0,12	0,22	0,36	0,53	0,76	1,02	1,47	2,13



1/ S1: Vacuum connection  
2/ S2: Compressed air connection

VIP 8 SP

Dimensions										
Type	A	B	C	D	E	F	G	M	S1 LW	S2 LW
VIP 8 SP	226	170	106	70	100	120	83	10	10	10



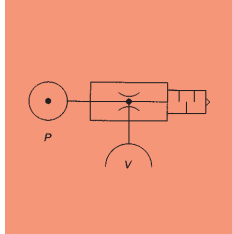
### Description

Multistage ejector in small size and low weight inside a stable aluminium housing. Optional available with silencer and control vacuum gauge.

Due to the chamber and the nozzle configuration in several ejector steps this type of ejector has a higher volume stream regarding to the same air usage than single stage ejectors.

Maintenance free and wear resistant operation, no warmth development, and the free choice of any installation position are additional advantages of this ejector.

Especially suitable for porous materials or transport goods, which require a big volume stream or a short cycle- and evacuation time.



Switching diagram  
V Vacuum connection  
P Compressed air connection



Multi-stage ejectors VEM

### General Data

Type	
Medium	dry, oil-free air
Operational pressure (bar)	4 to 6
Temperature range (°C)	0 to 100
Material	Coated
	aluminium, neoprene,
	brass, stainless steel

### Article numbers

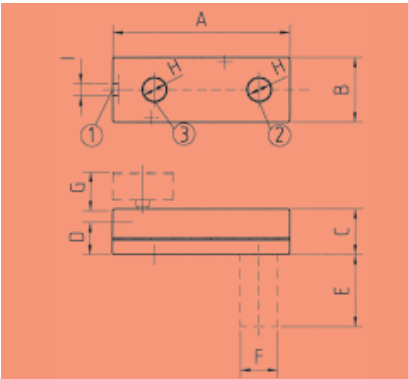
Type	Multi-stage ejector	Silencer	Control vacuum gauge
VEM-4	1.44.2.0004	2.44.2.0001	1.52.5.0008
VEM-8	1.44.2.0006	2.44.2.0001	1.52.5.0008
VEM-16	1.44.2.0002	2.44.2.0002	1.52.5.0008
VEM-32	1.44.2.0003	2.44.2.0002	1.52.5.0008
VEM-64	1.44.2.0005	2 x 2.44.2.0002	1.52.5.0008
VEM-128	1.44.2.0001	3 x 2.44.2.0002	1.52.5.0008

### Technical Data

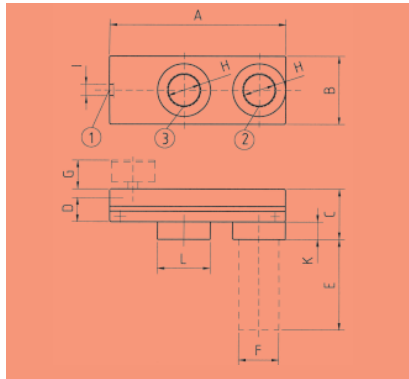
Type	max. vacuum (%)	Volume stream (l/ min)	Air consumption (l/ min)	Weight (kg)	Sound level dB (A) <sup>1)</sup>
VEM-4	90	300	68 - 95	0,62	60 - 65
VEM-8	90	500	136 - 190	0,65	65
VEM-16	90	1050	250 - 350	2,5	75
VEM-32	90	2100	700	2,8	72
VEM-64	90	4200	1400	7,5	72
VEM-128	90	9600	2880	9,5	72

<sup>\*)</sup> all indications with 4 to 6 bar operational pressure

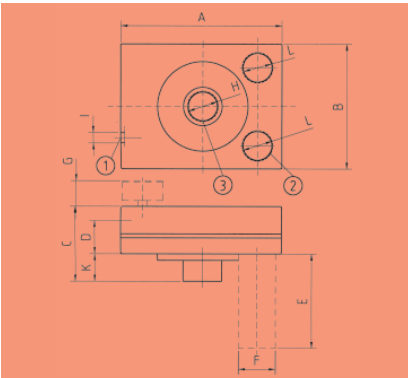
<sup>1)</sup> with silencer



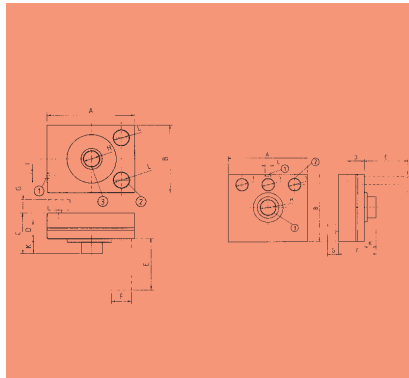
VEM 4 and VEM 8



VEM 16 and VEM 32



VEM 64



VEM 128

- 1 Compressed air connection
- 2 Ventilation
- 3 Vacuum connection

<b>Dimensions</b>											
Type	A	B	C	D	E	F	G	H	I	K	L
VEM 4	182	67	47	33	75	38	40	G 3/4"	G 1/4"	--	--
VEM 8	182	67	47	33	75	38	40	G 3/4"	G 1/4"	--	--
VEM 16	250	97	72	34,5	130	57	41	G 1 1/2"	G 3/8"	25	75
VEM 32	250	97	90	34,5	130	57	41	G 1 1/2"	G 3/8"	25	75
VEM 64	250	195	117	52	148	57	40	G 2"	G 3/8"	43	G 1 1/2"
VEM 128	295	250	138	63	160	57	42	G 2"	G 1 1/2"	43	G 1 1/2"

<b>Evacuation time for evacuating a volume of 1 litre *)</b>									
	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	
VEM-4	0,2	0,47	0,1	0,245	0,45	0,68	1,15	1,9	
VEM-8	0,01	0,024	0,05	0,123	0,23	0,34	0,58	0,95	
VEM-16	0,006	0,02	0,04	0,08	0,13	0,2	0,35	0,52	
VEM-32	0,003	0,005	0,01	0,03	0,05	0,08	0,13	0,23	
VEM-64 (ms)	0,001	0,0025	0,006	0,015	0,025	0,04	0,068	0,12	
VEM-128 (ms)	0,001	0,0015	0,003	0,008	0,014	0,02	0,035	0,06	

\*) all indications with 6 bar operational pressure