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Vacuum Generators

1. Basics
2. Suction Pads
3. Mounting Elements
4. Vacuum Generators
5. Valve Technology
6. Vakcuum Supervision
7. Filter Elements
8. Connection Elements
9. System Technology

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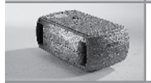
Vacuum generators

Overview

Vacuum pumps		Technical data		Page
	Oilless pump VP-T	Suction capacity (m³/h) Vacuum (mbar) Power (kW)	4 ... 140 -700 ... -900 0,18 ... 5,5	4.5
	Oilless pump VP-T silenced design	Suction capacity (m³/h) Vacuum (mbar) Power (kW)	16 ... 50 -700 ... -850 0,55 ... 1,25	4.9
	Oilless pump VP-TF-24V	Suction capacity (m³/h) Vacuum (mbar)	0,65 ... 8 -800 ... -850	4.13
	Oil-lubricated pump VP-0	Suction capacity (m³/h) Vacuum (mbar) Power (kW)	10 ... 250 -980 0,37 ... 7,5	4.17
	Vacuum flat tank VFS	Tank volume (l)	15 ... 200	4.21
	Vacuum energy unit VEE-T with oilless pump	Tank volume (l) Suction capacity (m³/h) Vacuum (mbar)	15 ... 200 4 ... 40 -820 ... -900	4.23
	Vacuum energy unit VEE-0 with oil-lubricated pump	Tank volume (l) Suction capacity (m³/h) Vacuum (mbar)	15 ... 200 10 ... 160 -980	4.27

Vacuum blowers		Technical data		Page
	directly driven SKV	Suction capacity (m³/h) Vacuum (mbar) Power (kW)	40 ... 720 -150 ... -400 0,37 ... 5,5	4.31
	with fly-wheel SD	Suction capacity (m³/h) Vacuum (mbar) Power (kW)	170 ... 280 -180 ... -250 0,9 ... 2,3	4.35
	belt-driven SKE	Suction capacity (m³/h) Vacuum (mbar) Power (kW)	160 ... 290 -500 2,2 ... 5,5	4.39
	silencer box SDB	Reduction of noise level (dB(A)	5 ... 10	4.43

Accessories for vacuum pumps and blowers		Description	Page
	Motor protection switch MSS	Overload protection on vacuum generators	4.45
	Vacuum-controlled motor switch VMS	Saving energy on vacuum pumps	4.47

Vacuum Generators

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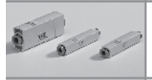
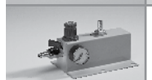
Overview

Ejectors		Technical data		Page
	Inline ejector FIG	Suction capacity (l/s) Vacuum (mbar)	0,12 ... 0,35 -870 ... .900	4.49
	Inline ejector FIS	Suction capacity (l/s) Vacuum (mbar)	0,1 ... 0,47 -860	4.53
	Inline ejektor FIM	Suction capacity (l/s) Vacuum (mbar)	0,24 ... 3,1 -750 ... -950	4.57
	Basic ejector unit VIP	Suction capacity (l/s) Vacuum (mbar)	1,42 -850	4.61
	Basic ejector FEG	Suction capacity (l/s) Vacuum (mbar)	0,1 ... 5,65 -610 ... -930	4.65
	Basic ejector with vacuum switch FEG-VS	Suction capacity (l/s) Vacuum (mbar)	0,12 ... 0,7 -610 ... -930	4.69
	Basic ejector with blow-off impulse FEG-AI	Suction capacity (l/s) Vacuum (mbar)	0,12 ... 1,54 -680 ... -930	4.73
	Basic ejector with vacuum valve FEG-VV	Suction capacity (l/s) Vacuum (mbar)	0,12 ... 3,1 -680 ... -930	4.77
	Basic ejector with vacuum valve and blow-off impulse FG-VA	Suction capacity (l/s) Vacuum (mbar)	0,12 ... 3,1 -680 ... -930	4.82
	Compact ejector FEK-VE	Suction capacity (l/s) Vacuum (mbar)	0,1 ... 1,48 -750 ... -930	4.85
	Compact ejector FEK-VD	Suction capacity (l/s) Vacuum (mbar)	0,1 ... 1,48 -750 ... -930	4.89
	Multi-stage ejector FEM	Suction capacity (l/s) Vacuum (mbar)	6,0 ... 24,0 -750	4.93
	Multi-stage ejector with air- saving-control FEMR	Suction capacity (l/s) Vacuum (mbar)	6,0 ... 24,0 -750	4.97

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Vacuum Generators

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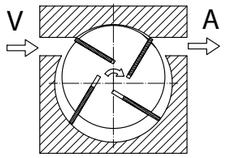
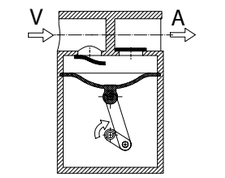
Functional principle of vacuum generators



Rotary valve pumps

Rotary valve vacuum pumps

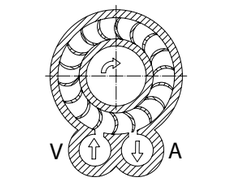
An off-centre mounted carrying wheel presses the rotorvanes outwards and they seal the chambers against the chamber housing. The following expansion in the individual chamber creates the vacuum.



Membrane pumps

Membrane vacuum pumps

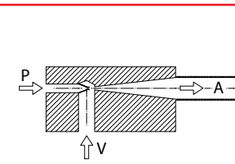
An eccentric lever moves a membrane upwards and downwards, air is sucked via one channel and blown out wia a second channel. Flap-traps close the channels.



Vacuum blowers

Vacuum blowers

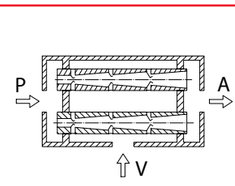
The carrying wheel accelerates and condenses the air which creates a vacuum on the suction side and an overpressure on the exhaust side. The large cross sections create a very high volume flow.



Single-stage ejectors

Ejector, single-stage

A Venturi nozzle accelerates the compressed air which is later decompressed via an expansion channel. This expansion creates vacuum on the suction side. Both the sucked on air and the compressed air exit via the silencer.



Multi-stage ejectors

Ejector, multi-stage

On multi-stage ejectors several Venturi nozzles are placed in line, thus the exiting air of the first stage is compressed again in the following stage. The first stage creates the maximum vacuumm the following stages increase the suction capacity.

Vacuum Pumps

Oilless pumps VP-T

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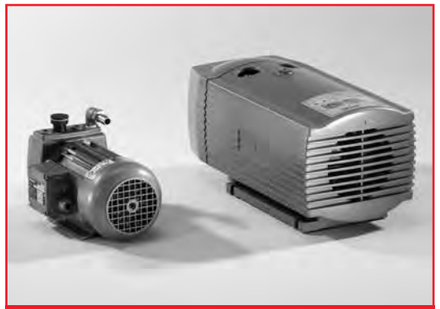
Description
Robust, low-maintenance and long-lasting vacuum pump working after the rotation principle. The pumps have permanently lubricated suspensions, are air-cooled and work absolutely oilless. The pumps are furnished with an integrated filter insert.

Options
- additional vacuum filter
- motor protection switch, vacuum-controlled motor switch
- other voltages on request

Application
- Handling of dense to slightly porous workpieces
- can be mounted in any position



VP-T 4.4 ... VP - T4.250

Article number

Type		Integrated filter insert	Additional vacuum filter*		Additional filter insert	Motor protection switch**	Vacuum-contr. motor switch***
VP-T4.4-230V	1.41.2.0017	2.41.2.0171	VF-1/2	1.53.2.0002	2.53.2.0009	6.35.7.0004	---
VP-T4.4-230/400V	1.41.2.0016	2.41.2.0171	VF-1/2	1.53.2.0002	2.53.2.0009	6.35.7.0007	---
VP-T4.8-230V	1.41.2.0019	2.41.2.0172	VF-1/2	1.53.2.0002	2.53.2.0009	6.35.7.0001	6.35.4.0290
VP-T4.8-230/400V	1.41.2.0018	2.41.2.0172	VF-1/2	1.53.2.0002	2.53.2.0009	6.35.7.0004	6.35.4.0263
VP-T4.16-230V	1.41.2.0015	2.41.2.0120	VF-3/4	1.53.2.0006	2.53.2.0014	6.35.7.0001	6.35.4.0289
VP-T4.16-230/400V	1.41.2.0014	2.41.2.0120	VF-3/4	1.53.2.0006	2.53.2.0014	6.35.7.0000	6.35.4.0264
VP-T4.25-230/400V	1.41.2.0004	2.41.2.0099	VF-11/4A	1.53.2.0003	2.53.2.0005	6.35.7.0000	6.35.4.0265
VP-T4.40-230/400V	1.41.2.0005	2.41.2.0099	VF-11/4A	1.53.2.0003	2.53.2.0005	6.35.7.0001	6.35.4.0266
VP-T4.50-230/400V	1.41.2.0069	2.41.2.0099	VF-11/4A	1.53.2.0003	2.53.2.0005	6.35.7.0001	6.35.4.0288
VP-T4.60-EURO-230/400V	1.41.2.0044	2.41.2.0107	VF-11/4A	1.53.2.0003	2.53.2.0005	6.35.7.0002	6.35.4.0267
VP-T4.80-EURO-230/400V	1.41.2.0046	2.41.2.0107	VF-11/4B	1.53.2.0004	2.53.2.0004	6.35.7.0002	6.35.4.0268
VP-T4.100-EURO-230/400V	1.41.2.0047	2.41.2.0107	VF-11/4B	1.53.2.0004	2.53.2.0004	6.35.7.0005	6.35.4.0269
VP-T4.140-EURO-230/400V	1.41.2.0048	2.41.2.0107	VF-11/4B	1.53.2.0004	2.53.2.0006	6.35.7.0005	6.35.4.0270
VP-T4.250-EURO-400/690V	1.41.2.0049	2.41.2.0105	VF-21/2	1.53.2.0005	2.53.2.0006	6.35.7.0018	6.35.4.0271

* *please order separately*
** *motor protection switch with housing for 400V, 50Hz*
*** *vacuum generator is switched on and off depending on vacuum level (energy saving module).*

Vacuum Pumps
Oilless pumps VP-T
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Technical data

Type	Vacuum (mbar)	Suction volume (m^3/h) 50 Hz	Suction volume (m^3/h) 60 Hz	Suction volume (l/s) 50 Hz	Suction volume (l/s) 60 Hz	Rotation speed (1/min) 50 Hz	Rotation speed (1/min) 60 Hz	Weight (kg)	Noise level dB (A)*
VP-T4.4-230V	-850	4,1	---	1,14	---	2750	---	7,0	59
VP-T4.4-230/400V	-850	4,1	4,7	1,14	1,30	2800	3360	7,0	59
VP-T4.8-230V	-850	8,0	---	2,22	---	2700	---	11,5	58
VP-T4.8-230/400V	-850	8,0	9,1	2,22	2,53	2800	3150	11,5	58
VP-T4.16-230V	-850	16	---	4,45	---	1370	---	22,5	61
VP-T4.16-230/400V	-850	16	19	4,45	5,28	1420	1700	22,5	61
VP-T4.25-230/400V	-850	25	30	6,95	8,34	1420	1700	26,0	62
VP-T4.40-230/400V	-850	40	48	11,1	13,3	1420	1700	38,5	67
VP-T4.50-230/400V	-700	50	60	13,9	15,3	1420	1700	38,5	69
VP-T4.60-EURO-230/400V	-900	55	66	15,3	18,3	1440	1740	69,0	71
VP-T4.80-EURO-230/400V	-900	67	78	18,6	21,8	1440	1740	69,0	72
VP-T4.100-EURO-230/400V	-900	98	112	27,2	31,1	1455	1749	101	75
VP-T4.140-EURO-230/400V	-900	129	154	35,8	42,8	1460	1760	111	76
VP-T4.250-EURO-400/690V	-800	248	300	68,9	83,3	975	1175	250	77

** Angaben at 50 Hz*

Electrical data

Type	Power (kW) 50 Hz	Power (kW) 60 Hz	Voltage (V) 50 Hz	Voltage (V) 60 Hz	Current consumption (A) 50 Hz	Current consumption (A) 60 Hz	Safety category	Efficiency category
VP-T4.4-230V	0,18	0,21	220-240	220-240	1,65	1,65	IP54	IE1
VP-T4.4-230/400V	0,18	0,21	175-260/300-450	202-300/350-520	1,08/0,62	1,08/0,62	IP54	IE1
VP-T4.8-230V	0,35	0,42	220-240	220-240	3,90	3,40	IP54	IE1
VP-T4.8-230/400V	0,35	0,44	175-260/300-450	202-300/350-520	2,35/1,35	2,4/1,4	IP54	IE1
VP-T4.16-230V	0,55	0,44	220-240	220-240	4,6/5,2	4,6/5,2	IP54	IE1
VP-T4.16-230/400V	0,55	0,70	175-260/300-450	202-300/350-520	3,8/2,25	3,9/2,25	IP54	IE1
VP-T4.25-230/400V	0,75	0,90	190-255/330-440	190-290/330-500	6,0/3,5	6,0/3,5	IP54	IE1
VP-T4.40-230/400V	1,25	1,50	190-255/330-440	190-290/330-500	6,9/4,0	6,9/4,0	IP54	IE1
VP-T4.50-230/400V	1,25	1,50	190-255/330-440	190-290/330-500	6,9/4,0	6,9/4,0	IP54	IE1
VP-T4.60-EURO-230/400V	2,4	3,0	230/400 +/-10%	265/460 +/-10%	8,4/4,8	8,1/4,6	IP54	IE2
VP-T4.80-EURO-230/400V	2,4	3,0	230/400 +/-10%	265/460 +/-10%	8,4/4,8	8,1/4,6	IP54	IE2
VP-T4.100-EURO-230/400V	3,0	3,5	230/400 +/-10%	265/460 +/-10%	10,7/6,2	10,8/6,2	IP54	IE2
VP-T4.140-EURO-230/400V	4,0	4,8	230/400 +/-10%	265/460 +/-10%	14,3/8,3	14,7/8,5	IP54	IE2
VP-T4.250-EURO-400/690V	5,5	6,3	230/400 +/-10%	265/460 +/-10%	19,9/11,5	19,9/11,5	IP54	IE2

Vacuum Pumps

Oilless pumps VP-T

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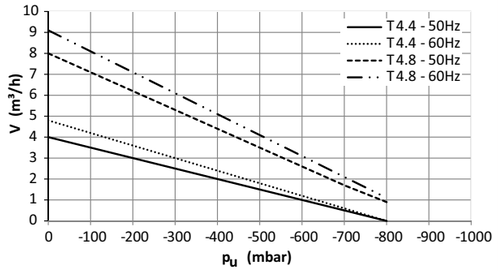
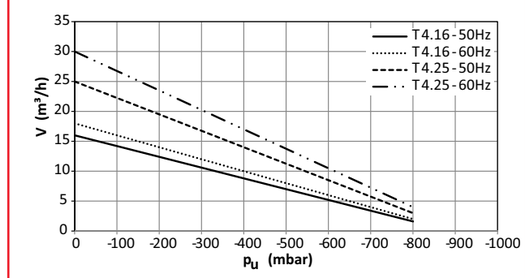
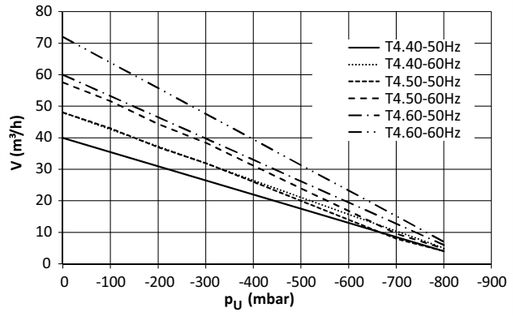


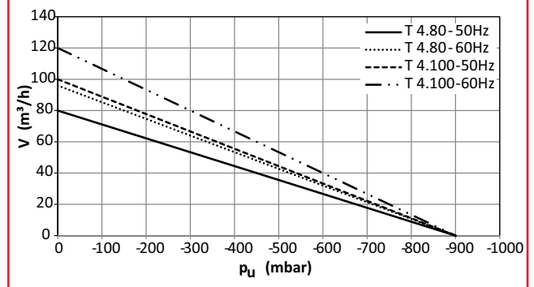
Air flow T4.4, T4.8 in dependance to grade of evacuation



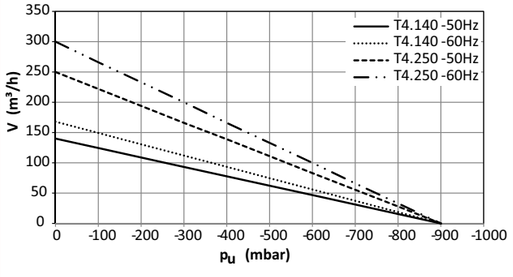
Air flow T4.16, T4.25 in dependance to grade of evacuation



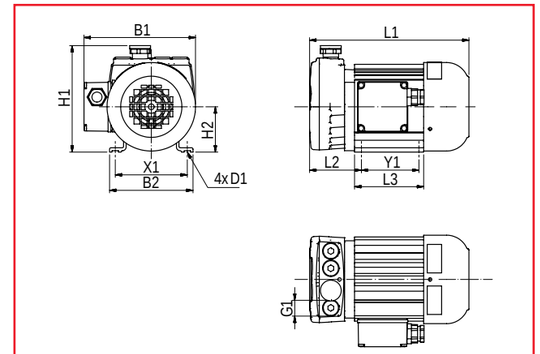
Air flow T4.40, T4.60 in dependance to grade of evacuation



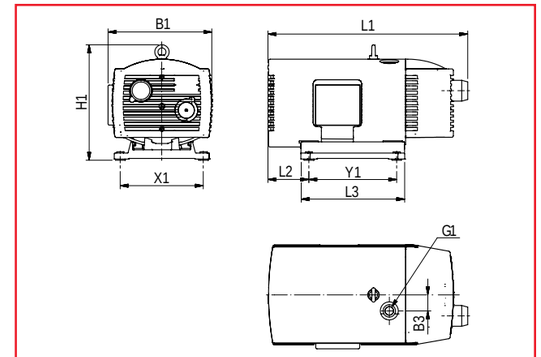
Air flow T4.80, T4.100 in dependance to grade of evacuation



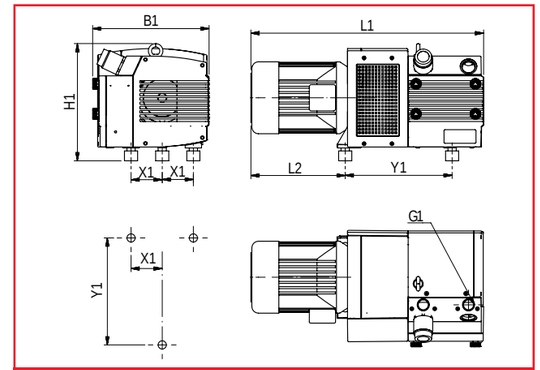
Air flow T4.140, T4.250 in dependance to grade of evacuation



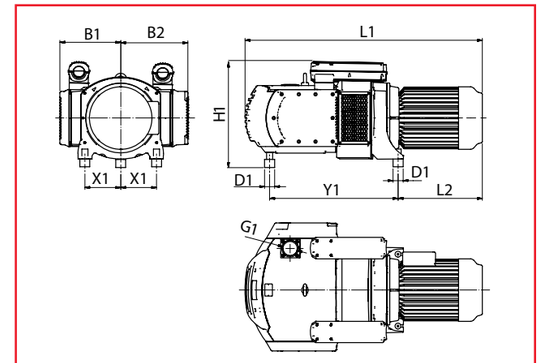
VP-T 4.4 ... VP-T4.8



VP-T 4.16 ... VP-T4.50



VP-T 4.60 ... VP-T4.140



VP-T 4.250 ... VP-T4.360

Dimensions

Type	L1	L2	L3	B1	B2	H1	G1	X1	Y1	D1
VP-T4.4-230V	221	71,5	96	155	116	148	G1/4	100	80	7
VP-T4.4-230/400V	221	71,5	96	155	116	148	G1/4	100	80	7
VP-T4.8-230V	231	61,5	96	155	116	154	G3/8	100	80	7
VP-T4.8-230/400V	231	61,5	96	155	116	154	G3/8	100	80	7
VP-T4.16-230V	452	73	242	231	155	205	G1/2	125	202	7
VP-T4.16-230/400V	452	73	242	231	155	205	G1/2	125	202	7
VP-T4.25-230/400V	505	96	260	260	238	253	G3/4	190	220	7
VP-T4.40-230/400V	572	131	260	260	238	253	G3/4	208	220	7
VP-T4.50-230/400V	572	131	260	260	238	253	G3/4	208	220	7
VP-T4.60-EURO-230/400V	709	287	---	353	---	328	G1	95	326	M8
VP-T4.80-EURO-230/400V	709	287	---	353	---	328	G1	95	326	M8
VP-T4.100-EURO-230/400V	835	297	---	470	---	336	G11/2	122,5	398	M8
VP-T4.140-EURO-230/400V	835	297	---	470	---	336	G11/2	122,5	398	M8
VP-T4.250-EURO-400/690V	1.250	481	---	644	---	580	G21/2	190	645	M10

Vacuum Pumps

Oilless pumps, silenced VP-TS

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Description
Robust, low-maintenance and long-lasting vacuum pump working after the rotation principle. To reduce the noise level the pumps are equipped with a cover made of foamed plastic. The pumps are air-cooled and work absolutely oilless. The pumps are equipped with an integrated filter and a vacuum regulation valve.

VP-TS4.16 ... VP-TS4.50

Options
- additional vacuum filter
- motor protection switch, vacuum-controlled motor switch
- other voltages on request

Application
- handling of dense to slighly porous workpieces
- environments with low noise level requirements
- can be mounted in any position

Article number

Type		Additional vacuum filter*		Additional filter insert	Motor protection switch**	Vacuum-contr. motor switch***
VP-TS4.16-230V	1.41.2.0068	VF-3/4	1.53.2.0006	2.53.2.0014	6.35.7.0000	6.25.4.0289
VP-TS4.16-230/400V	1.41.2.0067	VF-11/4A	1.53.2.0003	2.53.2.0005	6.35.7.0000	6.25.4.0264
VP-TS4.25-230/400V	1.41.2.0070	VF-11/4A	1.53.2.0003	2.53.2.0005	6.35.7.0000	6.25.4.0265
VP-TS4.40-230/400V	1.41.2.0071	VF-11/4A	1.53.2.0003	2.53.2.0005	6.35.7.0001	6.25.4.0266
VP-TS4.50-230/400V	1.41.2.0072	VF-11/4A	1.53.2.0003	2.53.2.0005	6.35.7.0001	6.25.4.0288

* *please order separately*
** *motor protection switch with housing for 400V, 50Hz*
*** *vacuum generator is switched on and off depending on vacuum level (energy saving module).*

Vacuum Pumps
Oilless pumps, silenced VP-TS
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Technical data

Type	Vacuum (mbar)	Suction volume (m³/h) 50 Hz	Suction volume (m³/h) 60 Hz	Suction volume (l/s) 50 Hz	Suction volume (l/s) 60 Hz	Rotation speed (1/min) 50 Hz	Rotation speed (1/min) 60 Hz	Weight (kg)	Noise level dB (A)*
VP-TS4.16-230V	-850	16	---	4,45	---	1370	---	33,0	55
VP-TS4.16-230/400V	-850	16	19	4,45	5,28	1420	1700	33,0	55
VP-TS4.25-230/400V	-850	25	30	6,95	8,34	1420	1700	42,0	56
VP-TS4.40-230/400V	-850	40	48	11,1	13,3	1420	1700	42,0	57
VP-TS4.50-230/400V	-700	50	60	13,9	15,3	1420	1700	42,0	62

** Specification at 50 Hz*

Electrical data

Type	Power (kW) 50 Hz	Power (kW) 60 Hz	Voltage (V) 50 Hz	Voltage (V) 60 Hz	Current consumption (A) 50 Hz	Current consumption (A) 60 Hz	Safety category	Efficiency category
VP-TS4.16-230V	0,55	0,44	220-240	220-240	4,6/5,2	4,6/5,2	IP54	IE1
VP-TS4.16-230/400V	0,55	0,70	175-260/300-450	202-300/350-520	3,8/2,25	3,9/2,25	IP54	IE1
VP-TS4.25-230/400V	0,75	0,90	190-255/330-440	190-290/330-500	6,0/3,5	6,0/3,5	IP54	IE1
VP-TS4.40-230/400V	1,25	1,50	190-255/330-440	190-290/330-500	6,9/4,0	6,9/4,0	IP54	IE1
VP-TS4.50-230/400V	1,25	1,50	190-255/330-440	190-290/330-500	6,9/4,0	6,9/4,0	IP54	IE1

Vacuum Pumps

Oilless pumps, silenced VP-TS

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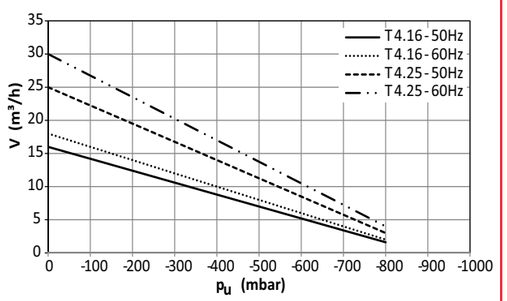
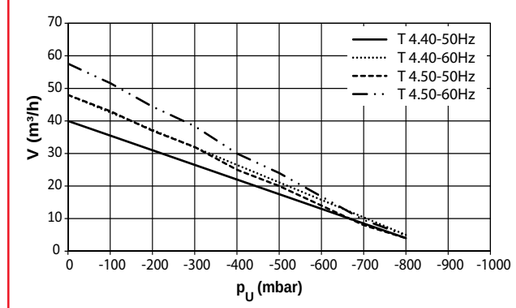


Air flow T4.16, T4.25 in dependance to grade of evacuation



Air flow T4.40, T4.50 in dependance to grade of evacuation

Vacuum Pumps

Oilless pumps, silenced VP-TS

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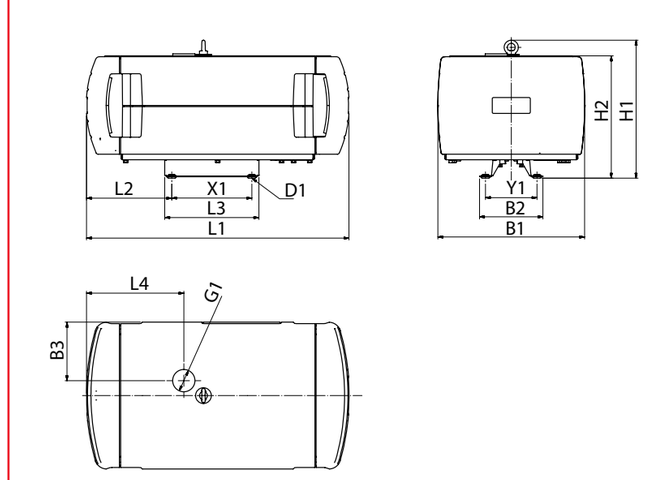

VP-TS4.16 ... VP-TS4.50

Dimensions

Type	L1	L2	L3	L4	B1	B2	B3	H1	H2	X1	Y1	D1	G1
VP-TS4.16-230V	662	215	237	245	370	160	148	348	308	202	130	8	G1/2
VP-TS4.16-230/400V	806	282	267	360	445	230	182	366	326	220	203	8	G1/2
VP-TS4.25-230/400V	806	282	267	360	445	230	182	366	326	220	203	8	G3/4
VP-TS4.40-230/400V	806	282	267	360	445	230	182	366	326	220	203	8	G3/4
VP-TS4.50-230/400V	806	282	267	360	445	230	182	366	326	220	203	8	G3/4

Vacuum Pumps

Oilless pumps VP-TF-24V

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Description
Robust, low-maintenance and long-lasting vacuum pump working after the rotation principle. The pumps have permanently lubricated suspensions, are air-cooled and work absolutely oillessly. The pumps are designed for operation with batteries or a direct 24V supply.


VP-TF4.2 ... VP-TF4.6

Options
- additional vacuum filter
- motor protection switch, vacuum-controlled motor switch
- other voltages on request

Application
- handling of dense workpieces
- can be mounted in any position
- self-sufficient operation via batteries

Article number

Type		Additional vacuum filter*		Additional filter insert	Vacuum-controlled motor switch**
VP-TF4.2-24V-0,05kW	1.41.2.0043	VF-1/2	1.53.2.0002	2.41.2.0106	6.35.4.0291
VP-TF4.4-24V-0,17kW	1.41.2.0073	VF-1/2	1.53.2.0002	2.41.2.0106	6.35.4.0292
VP-TF4.6-24V-0,25kW	1.41.2.0066	VF-1/2	1.53.2.0002	2.41.2.0106	6.35.4.0293

* *please order separately*

** *vacuum generator is switched on and off depending on vacuum level (energy saving module).*

Vacuum Pumps

Oilless pumps VP-TF-24V

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Technical data

Type	Vacuum (mbar)	Suction volume (m^3/h)	Suction volume (l/s)	Rotation speed (1/min)	Weight (kg)	Noise level dB (A)*
VP-TF4.2-24V-0,05kW	-800	2,0	0,55	1370	3,7	56
VP-TF4.4-24V-0,17kW	-850	4,1	1,14	1420	11,0	59
VP-TF4.6-24V-0,25kW	-850	6,0	1,67	1420	11,0	59

Electrical data

Type	Voltage (V)	Current consumption (A)	Power (kW)	Safety category
VP-TF4.2-24V-0,05kW	24	2,1	0,05	IP44
VP-TF4.4-24V-0,17kW	24	10,5	0,17	IP44
VP-TF4.6-24V-0,25kW	24	16,0	0,25	IP44

Vacuum Pumps

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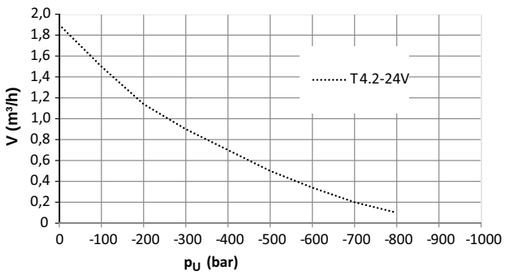
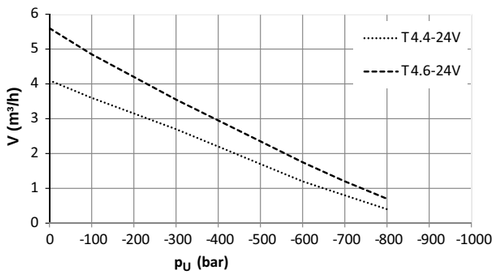
Oilless pumps VP-TF-24V



Air flow T4.2-24V in dependance to grade of evacuation



Air flow T4.4, T4.6-24V in dependance to grade of evacuation

1. Basics
2. Suction Pads
3. Mounting Elements
4. Vacuum Generators
5. Valve Technology
6. Vacuum Supervision
7. Filter Elements
8. Connection Elements
9. System Technology

Vacuum pumps

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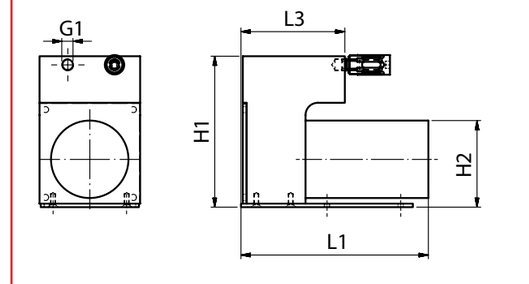
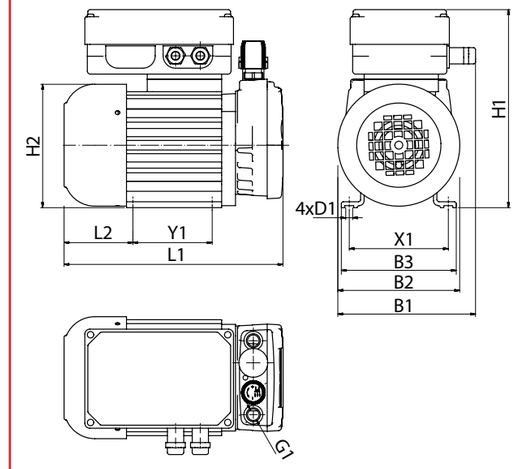
Oilless pumps VP-TF-24V



VP-TF4.2



VP-TF4.4 ... VP-TF4.6

Dimensions

Type	L1	L2	L3	B1	B2	B3	H1	H2	D1	G1	X1	Y1
VP-TF4.2-24V-0,05kW	152,5	70	84,5	82	80	---	123	70,5	4,5	G1/8	70	60
VP-TF4.4-24V-0,17kW	221	69,5	---	139	123	116	200	124,5	7	G1/4	100	80
VP-TF4.6-24V-0,25kW	221	69,5	---	139	123	116	200	124,5	7	G1/4	100	80

Vacuum pumps

Oil-lubricated pumps VP-O

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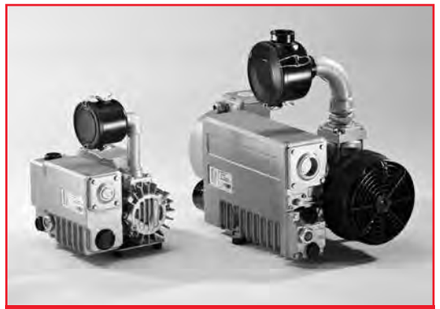
Description
Robust, low-maintenance and long-lasting vacuum pump working after the rotation principle. The pumps are air-cooled and have an internal oil circuit. The exhaust is cleaned by an oil mist filter. The pumps are equipped with an integrated non-return valve and an additional vacuum filter.


VP-010.1 ... VP-0250.1

Options
- additional gas balancing valve which prevents a mixing of oil and water at high Temperaturees
- motor protection switch, vacuum-controlled motor switch
- other voltages on request

Application
- handling of dense to slightly porous workpieces
- central vacuum supply of stationary equipment
- stable, horizontal mounting position

Article number

Type		Additional vacuum filter*		Additional filter insert	Motor protection switch**	Vacuum-contr. motor switch***
VP-010.1-230/400V	1.41.1.0001	VF-3/4	1.53.2.0006	2.53.2.0014	6.35.7.0003	6.35.4.0272
VP-016.1-230/400V	1.41.1.0003	VF-3/4	1.53.2.0006	2.53.2.0014	6.35.7.0004	6.35.4.0273
VP-025.3EURO-230/400V	1.41.1.0045	VF-11/4A	1.53.2.0003	2.53.2.0005	6.35.7.0000	6.35.4.0274
VP-025.3MULTI-230/400V	1.41.1.0038	VF-11/4A	1.53.2.0003	2.53.2.0005	6.35.7.0000	6.35.4.0281
VP-040.3EURO-230/400V	1.41.1.0046	VF-11/4A	1.53.2.0003	2.53.2.0005	6.35.7.0000	6.35.4.0275
VP-040.3MULTI-230/400V	1.41.1.0039	VF-11/4A	1.53.2.0003	2.53.2.0005	6.35.7.0001	6.35.4.0282
VP-063.3EURO-230/400V	1.41.1.0047	VF-11/4A	1.53.2.0003	2.53.2.0005	6.35.7.0001	6.35.4.0276
VP-063.3MULTI-230/400V	1.41.1.0040	VF-11/4A	1.53.2.0003	2.53.2.0005	6.35.7.0001	6.35.4.0283
VP-0100.3EURO-230/400V	1.41.1.0048	VF-11/4B	1.53.2.0004	2.53.2.0004	6.35.7.0001	6.35.4.0277
VP-0100.3MULTI-230/400V	1.41.1.0041	VF-11/4B	1.53.2.0004	2.53.2.0004	6.35.7.0002	6.35.4.0284
VP-0160.3EURO-230/400V	1.41.1.0049	VF-21/2	1.53.2.0005	2.53.2.0006	6.35.7.0002	6.35.4.0278
VP-0160.3MULTI-230/400V	1.41.1.0042	VF-21/2	1.53.2.0005	2.53.2.0006	6.35.7.0005	6.35.4.0285
VP-0250.3EURO-230/400V	1.41.1.0050	VF-21/2	1.53.2.0005	2.53.2.0006	6.35.7.0005	6.35.4.0287
VP-0250.3MULTI-230/400V	1.41.1.0043	VF-21/2	1.53.2.0005	2.53.2.0006	6.35.7.0018	6.35.4.0286

* *enclosed as standard*
** *motor protection switch with housing for 400V, 50Hz*
*** *vacuum generator is switched on and off depending on vacuum level (energy saving module).*

Article number and technical data of motor oil

Motor oil for vacuum pump	Content 1l	2.41.1.0527
viscosity:	(mm^2/s)	100 at 40°C
relative denseness:	(kg/m^3)	884 at 15°C
steam pressure:	(mbar)	1013 at 360°C
ignition Temperaturee:	(°C)	> 250
burning point:	(°C)	> 240
boiling point:	(°C)	>= 360

Vacuum Pumps

Oil-lubricated pumps VP-O

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Technical data

Type	Vacuum (mbar)	Suction volume (m^3/h) 50 Hz	Suction volume (m^3/h) 60 Hz	Suction volume (l/s) 50 Hz	Suction volume (l/s) 60 Hz	Rotation speed (1/min) 50 Hz	Rotation speed (1/min) 60 Hz	Oil q'ty (l)	Weight (kg)	Noise level dB (A)*
VP-010.1-230/400V	-980	10	12	2,77	3,33	2800	3400	0,3	16	59
VP-016.1-230/400V	-980	16	19	4,44	5,28	2700	3280	0,3	18	60
VP-025.3EURO-230/400V	-995	25	---	6,94	---	1410	---	1,0	34	62
VP-025.3MULTI-230/400V	-995	25	30	6,94	8,33	1435	1750	1,0	34	62
VP-040.3EURO-230/400V	-995	40	---	11,11	---	1420	---	1,0	38	64
VP-040.3MULTI-230/400V	-995	40	48	11,11	13,33	1440	1730	1,0	38	64
VP-063.3EURO-230/400V	-995	63	---	17,50	---	1425	---	2,0	52	64
VP-063.3MULTI-230/400V	-995	63	76	17,50	21,11	1450	1740	2,0	52	64
VP-0100.3EURO-230/400V	-995	100	---	27,78	---	1445	---	2,0	70	65
VP-0100.3MULTI-230/400V	-995	100	120	27,78	33,33	1450	1740	2,0	70	65
VP-0160.3EURO-230/400V	-995	160	---	44,44	---	1460	---	6,5	160	70
VP-0160.3MULTI-230/400V	-995	160	190	44,44	52,77	1475	1765	6,5	160	70
VP-0250.3EURO-230/400V	-995	250	---	69,44	---	1460	---	6,5	195	72
VP-0250.3MULTI-230/400V	-995	250	300	69,44	83,33	1475	1765	6,5	195	72

** Specification at 50 Hz*

Electrical data

Type	Power (kW) 50 Hz	Power (kW) 60 Hz	Voltage (V) 50 Hz	Voltage (V) 60 Hz	Current consumption (A) 50 Hz	Current consumption (A) 60 Hz	Safety category	Efficiency category
VP-010.1-230/400V	0,37	0,45	200-240/346-415	200-277/346-480	2,1/1,2	1,9/1,1	IP54	IE1
VP-016.1-230/400V	0,55	0,65	200-240/346-415	200-277/346-480	2,6/1,5	2,6/1,5	IP54	IE1
VP-025.3EURO-230/400V	0,75	---	230/400 +/-10%	---	3,1/1,8	---	IP55	IE2
VP-025.3MULTI-230/400V	1,1	1,2	190-208/380-415	220-230/440-460	4,8/2,4	4,8/2,4	IP55	IE2
VP-040.3EURO-230/400V	1,1	---	230/400 +/-10%	---	4,7/2,7	---	IP55	IE2
VP-040.3MULTI-230/400V	1,4	1,7	190-208/380-415	220-230/440-460	7,0/3,5	6,6/3,3	IP55	IE2
VP-063.3EURO-230/400V	1,5	---	230/400 +/-10%	---	6,3/3,7	---	IP55	IE2
VP-063.3MULTI-230/400V	2,0	2,4	190-208/380-415	220-230/440-460	9,4/4,7	9,4/4,7	IP55	IE2
VP-0100.3EURO-230/400V	2,2	---	230/400 +/-10%	---	8,5/4,9	---	IP55	IE2
VP-0100.3MULTI-230/400V	2,7	3,4	190-208/380-415	220-230/440-460	11,8/5,9	12,4/6,2	IP55	IE2
VP-0160.3EURO-230/400V	4,0	---	230/400 +/-10%	---	14,1/8,1	---	IP55	IE2
VP-0160.3MULTI-230/400V	5,5	6,6	190-208/380-415	220-230/440-460	24,4/12,2	23,8/11,9	IP55	IE2
VP-0250.3EURO-230/400V	5,5	---	400/690 +/-10%	---	10,5/6,1	---	IP55	IE2
VP-0250.3MULTI-230/400V	7,5	9,2	190-208/380-415	220-230/440-460	31,1/15,5	31/15,5	IP55	IE2

Vacuum Pumps

Oil-lubricated pumps VP-O

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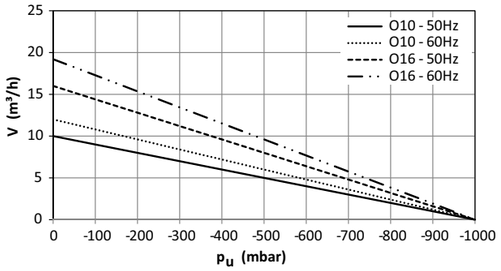
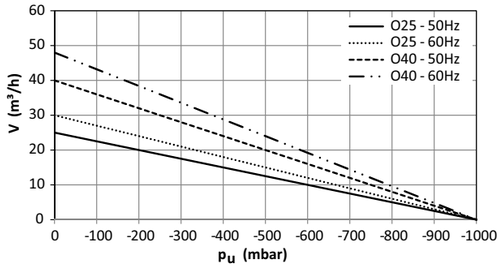
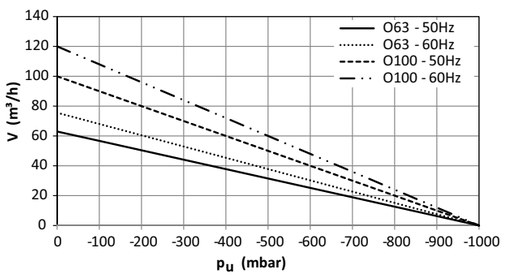


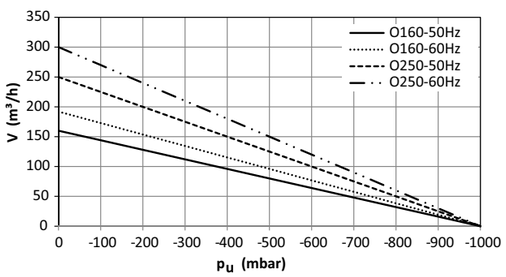
Air flow 010.1, 016.1 in dependance to grade of evacuation



Air flow 025.1, 040.1 in dependance to grade of evacuation



Air flow 063.1, 0100.1 in dependance to grade of evacuation



Air flow 0160.1, 0250.1 in dependance to grade of evacuation

Vacuum Pumps

Oil-lubricated pumps VP-O

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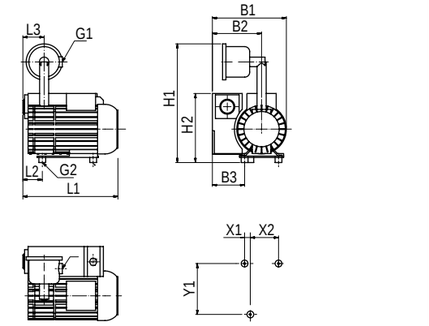
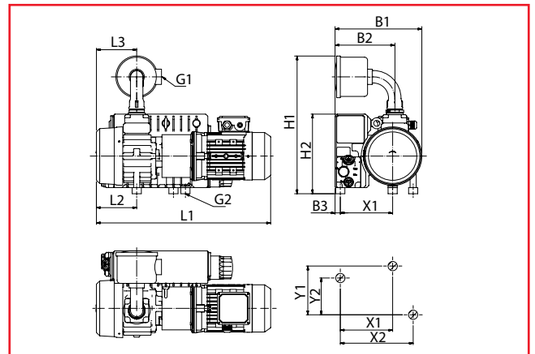
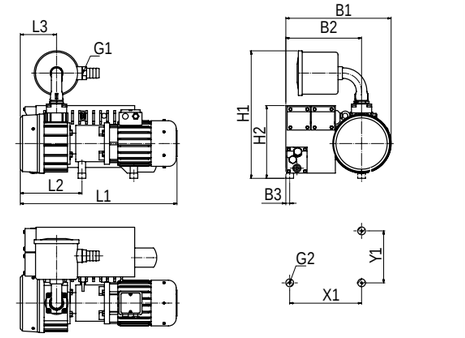


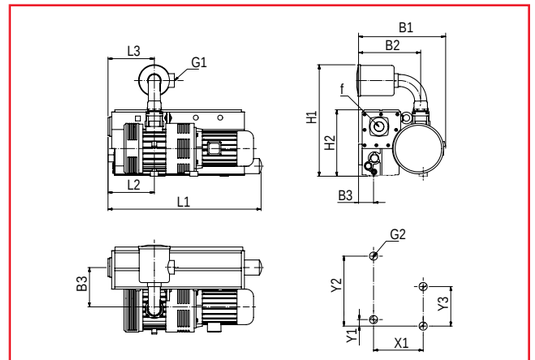
VP-010.1 ... VP-016.1



VP-025.1 ... VP-040.1



VP-063.1 ... VP-0100.1



VP-0160.1 ... VP-0250.1

Dimensions

Type	L1	L2	L3	B1	B2	B3	H1	H2	G1	G2	X1	X2	Y1	Y2	Y3
VP-010.1 ...	271	49	60	218	151	98	350	201	G3/4	M6	17	83	150	75	
VP-016.1 ...	301	79	60	218	151	96	360	196	G3/4	M6	17	83	150	----	---
VP-025.3EURO- ...	568	131	131	284	195	17	471	260	G11/4	M8	171	67	120	39	---
VP-025.3MULTI- ...	585	131	131	284	195	17	471	260	G11/4	M8	171	67	120	39	
VP-040.3EURO- ...	625	151	151	284	195	17	471	260	G11/4	M8	171	67	123	56	---
VP-040.3MULTI- ...	625	151	151	284	195	17	471	260	G11/4	M8	171	67	123	56	
VP-063.3EURO- ...	614	137	140	406	292	15	502	280	G11/4	M8	277	---	199	---	---
VP-063.3MULTI- ...	627	137	140	406	292	15	502	280	G11/4	M8	277	---	199	---	
VP-0100.3EURO- ...	696	170	170	406	292	15	502	280	G11/4	M8	277	---	226	---	---
VP-0100.3MULTI- ...	701	170	170	406	292	15	502	280	G2	M10	277	---	226	---	
VP-0160.3EURO- ...	921	279	279	554	389	99	703	418	G2	M10	305	---	40	390	263
VP-0160.3MULTI- ...	977	279	279	554	389	99	703	418	G2	M10	305	---	40	390	263
VP-0250.3EURO- ...	1056	319	319	583	389	54	703	418	G2	M10	350	---	8,7	390	303
VP-0250.3MULTI- ...	1086	319	319	583	389	54	703	418	G2	M10	350	---	8,7	390	303

Vacuum Pumps

Vacuum flat tanks VFS

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Description
Vacuum flat tank made of a welded-steel construction with mounted vacuum gauge, non-return valve and 2/2-ways shut-off cock.

Options
- vacuum filter
- water separator

Application
- keeping up the vacuum in case of a power failure
- additional volume on applications with high cycle times
- any mounting position

VFS-15 ... VFS-200

Article number

Type		Additional vacuum filter		Additional water separator	
VSF-15L	1.42.0.0002	VF-3/4	1.53.2.0006	WA-3/4	1.53.4.0002
VSF-50L	1.42.0.0004	VF-1	1.53.2.0014	WA-1	1.53.4.0006
VSF-100L	1.42.0.0001	VF-11/4A	1.53.2.0003	WA-11/4	1.53.4.0004
VSF-200L	1.42.0.0003	VF-11/4B	1.53.2.0004	WA-11/2	1.53.4.0005

Technical data

Type	Volume (l)	Weight (kg)
VSF-15L	15	15
VSF-50L	50	30
VSF-100L	100	45
VSF-200L	200	90

Vacuum Pumps

Vacuum flat tank VFS

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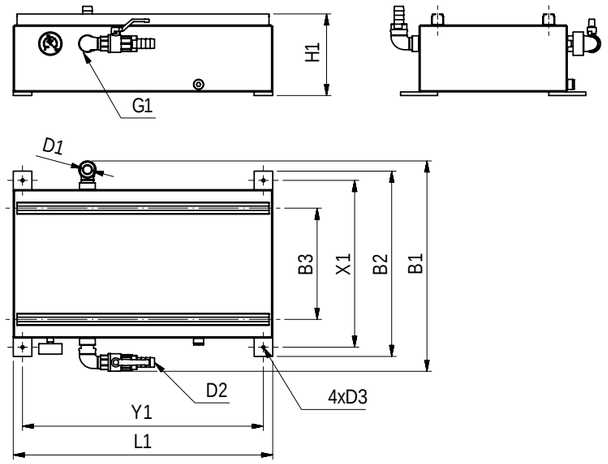

VFS-15 ... VFS-200

Dimensions

Type	L1	B1	B2	B3	H1	D1	D2	D3	G1	X1	Y2
VSF-15L	450	423	380	210	160	3/4	1/2	8,5	G3/4	330	400
VSF-50L	700	568	500	300	220	1	1	8,5	G1	450	650
VSF-100L	700	681	600	300	320	11/4	11/4	8,5	G11/4	550	650
VSF-200L	1000	913	800	300	340	11/4	11/4	11	G11/4	750	950

Vacuum Pumps

Vacuum energy unit with oilless pump VEE ... T

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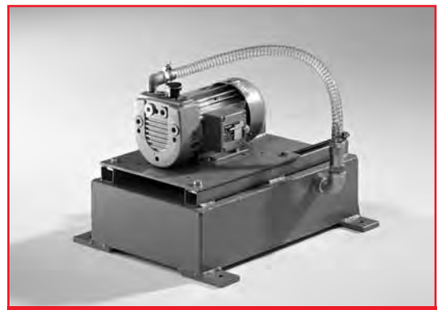
Description
The vacuum energy unit is wired ready-for-connection and consists of a vacuum tank with mounted oilless vacuum pump with integrated filter, non-return valve, vacuum gauge and a 2/2-ways shut-off cock.

Options
- additional vacuum filter and water separator
- motor protection switch, vacuum-controlled motor switch
- other voltages on request

Application
- central vacumm supply for several work stations
- applications with extremely short cycle times



VEE-15L-T4.4 ... VEE-200L-T4.40

Article number

Type		Additional vacuum filter		Additional water separator		Motor protection switch*	Vacuum-controlled motor switch**
VEE-15L-T4.8	1.42.2.0017	VF-3/4	1.53.2.0006	WA-3/4	1.53.4.0002	6.35.7.0004	6.35.4.0263
VEE-15L-T4.16	1.42.2.0013	VF-3/4	1.53.2.0006	WA-3/4	1.53.4.0002	6.35.7.0000	6.35.4.0264
VEE-50L-T4.8	1.42.2.0035	VF-1	1.53.2.0014	WA-1	1.53.4.0006	6.35.7.0004	6.35.4.0263
VEE-50L-T4.16	1.42.2.0027	VF-1	1.53.2.0014	WA-1	1.53.4.0006	6.35.7.0000	6.35.4.0264
VEE-50L-T4.25	1.42.2.0029	VF-1	1.53.2.0014	WA-1	1.53.4.0006	6.35.7.0000	6.35.4.0265
VEE-100L-T4.16	1.42.2.0002	VF-11/4A	1.53.2.0003	WA-11/4	1.53.4.0004	6.35.7.0000	6.35.4.0264
VEE-100L-T4.25	1.42.2.0004	VF-11/4A	1.53.2.0003	WA-11/4	1.53.4.0004	6.35.7.0000	6.35.4.0265
VEE-100L-T4.40	1.42.2.0005	VF-11/4A	1.53.2.0003	WA-11/4	1.53.4.0004	6.35.7.0002	6.35.4.0266
VEE-200L-T4.25	1.42.2.0021	VF-11/4B	1.53.2.0004	WA-11/2	1.53.4.0005	6.35.7.0000	6.35.4.0265
VEE-200L-T4.40	1.42.2.0022	VF-11/4B	1.53.2.0004	WA-11/2	1.53.4.0005	6.35.7.0002	6.35.4.0266

* *motor protection switch with housing for 400V, 50Hz*

** *vacuum generator is switched on and off depending on vacuum level (energy saving module).*

Vacuum Pumps
Vacuum energy unit with oilless pump VEE ... T
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Technical data

Type	Vacuum (mbar)	Volumen (l)	Suction volume (m³/h)		Suction volume (l/s)		Rotation speed (1/min)		Weight (kg)	Noise level dB (A)*
			50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz		
VEE-15L-T4.8	-850	15	8,0	9,1	2,22	2,53	2800	3150	30	58
VEE-15L-T4.16	-850	15	16	19	4,45	5,28	1420	1700	42	61
VEE-50L-T4.8	-850	50	8,0	9,1	2,22	2,53	2800	3150	48	58
VEE-50L-T4.16	-850	50	16	19	4,45	5,28	1420	1700	60	61
VEE-50L-T4.25	-850	50	25	30	6,95	8,34	1420	1700	64	62
VEE-100L-T4.16	-850	100	16	19	4,45	5,28	1420	1700	75	61
VEE-100L-T4.25	-850	100	25	30	6,95	8,34	1420	1700	80	62
VEE-100L-T4.40	-850	100	40	48	11,1	13,3	1420	1700	93	67
VEE-200L-T4.25	-850	200	25	30	6,95	8,34	1420	1700	122	62
VEE-200L-T4.40	-850	200	40	48	11,1	13,3	1420	1700	135	67

* *Angaben at 50 Hz*

Electrical data

Type	Power (kW)		Voltage (V)		Current consumption (A)		Safety category	Efficiency category
	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz		
VEE-15L-T4.8	0,37	0,44	175-260/300-450	202-300/350-520	2,35/1,35	2,4/1,4	IP54	IE1
VEE-15L-T4.16	0,55	0,70	175-260/300-450	202-300/350-520	3,8/2,25	3,9/2,25	IP54	IE1
VEE-50L-T4.8	0,37	0,44	175-260/300-450	202-300/350-520	2,35/1,35	2,4/1,4	IP54	IE1
VEE-50L-T4.16	0,55	0,70	175-260/300-450	202-300/350-520	3,8/2,25	3,9/2,25	IP54	IE1
VEE-50L-T4.25	0,75	0,90	190-255/330-440	190-290/330-500	6,0/3,5	6,0/3,5	IP54	IE1
VEE-100L-T4.16	0,55	0,70	175-260/300-450	202-300/350-520	3,8/2,25	3,9/2,25	IP54	IE1
VEE-100L-T4.25	0,75	0,90	190-255/330-440	190-290/330-500	6,0/3,5	6,0/3,5	IP54	IE1
VEE-100L-T4.40	1,25	1,50	190-255/330-440	190-290/330-500	6,9/4,0	6,9/4,0	IP54	IE1
VEE-200L-T4.25	0,75	0,90	190-255/330-440	190-290/330-500	6,0/3,5	6,0/3,5	IP54	IE1
VEE-200L-T4.40	1,25	1,50	190-255/330-440	190-290/330-500	6,9/4,0	6,9/4,0	IP54	IE1

Vacuum Pumps

Vacuum energy unit with oilless pump VEE ... T

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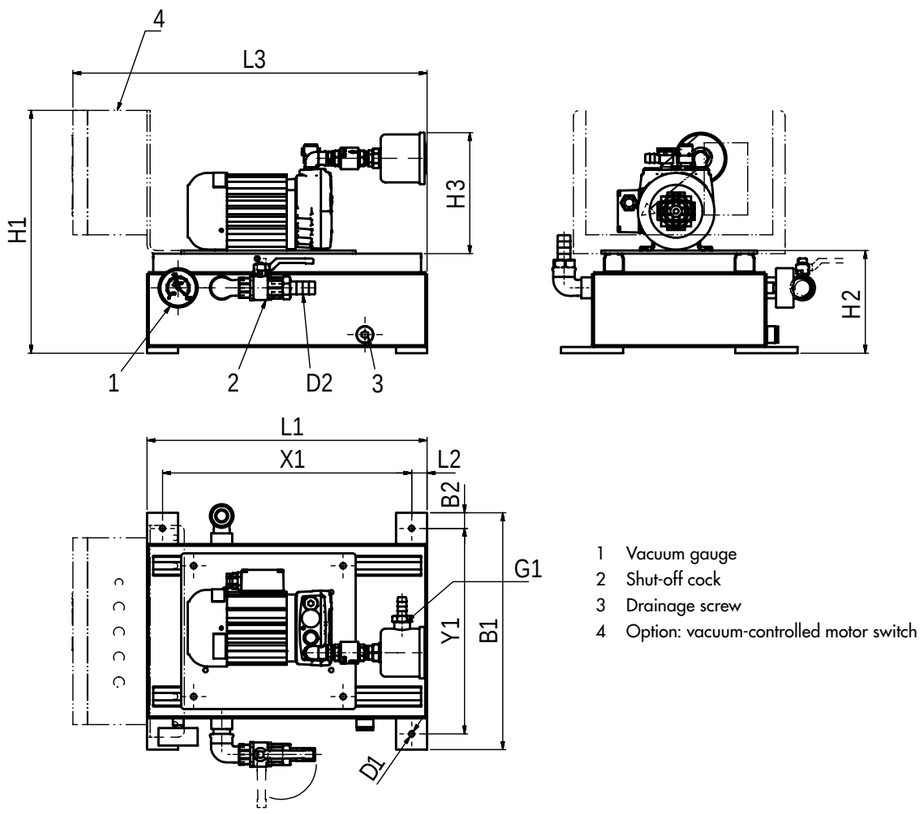

1 Vacuum gauge
2 Shut-off cock
3 Drainage screw
4 Option: vacuum-controlled motor switch

VEE-15L-T4.4 ... VEE-200L-T4.40

Vacuum Pumps

Vacuum energy unit with oilless pump VEE ... T

FEZER
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Dimensions

Type	L1	L2	L3	B1	B2	H1	H2	H3	D1	D2	X1	Y1
VEE-15L-T4.8	450	25	570	380	25	360	158	170	8,5	3/4"	400	330
VEE-15L-T4.16	450	25	570	380	25	360	158	215	8,5	3/4"	400	330
VEE-50L-T4.8	700	25	820	500	25	420	220	170	8,5	1"	650	450
VEE-50L-T4.16	700	25	820	500	25	420	220	215	8,5	1"	650	450
VEE-50L-T4.25	700	25	820	500	25	420	220	290	8,5	1"	650	450
VEE-100L-T4.16	700	25	820	600	25	520	320	215	8,5	38	650	550
VEE-100L-T4.25	700	25	820	600	25	520	320	290	8,5	38	650	550
VEE-100L-T4.40	700	25	820	600	25	520	320	290	8,5	38	650	550
VEE-200L-T4.25	1000	25	1120	800	25	540	338	290	11	38	950	750
VEE-200L-T4.40	1000	25	1120	800	25	540	338	290	11	38	950	750

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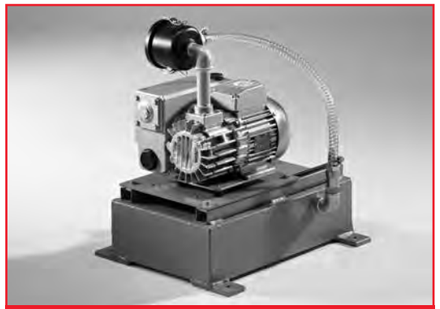
Vacuum Pumps

Vacuum energy unit with oil-lubricated pump VEE ... 0

Description
The vacuum energy unit is wired ready-for-connection and consists of a vacuum tank with mounted oil-lubricated vacuum pump with integrated filter, non-return valve, additional vacuum filter, vacuum gauge and a 2/2-ways shut-off cock.

Options
- additional vacuum filter and water separator
- motor protection switch, vacuum-controlled motor switch
- other voltages on request

Application
- roboter applications and linear axles
- central vacuum supply for several work stations
- applications with extremely short cycle times



VEE-15L-016 ... VEE-200L-0160

Article number

Type		Additional vacuum filter		Additional water separator		Motor prot. switch*	Vacuum-controlled motor switch**
VEE-15L-010.1	1.42.1.0008	VF-3/4	1.53.2.0006	WA-3/4	1.53.4.0002	6.35.7.0003	6.35.4.0272
VEE-50L-016.1	1.42.1.0018	VF-1	1.53.2.0014	WA-1	1.53.4.0006	6.35.7.0004	6.35.4.0273
VEE-50L-025.3EURO	1.42.1.0019	VF-1	1.53.2.0014	WA-1	1.53.4.0006	6.35.7.0000	6.35.4.0274
VEE-50L-025.3MULTI	1.42.1.0043	VF-1	1.53.2.0014	WA-1	1.53.4.0006	6.35.7.0000	6.35.4.0274
VEE-100L-025.3EURO	1.42.1.0004	VF-11/4A	1.53.2.0003	WA-11/4	1.53.4.0004	6.35.7.0000	6.35.4.0274
VEE-100L-025.3MULTI	1.42.1.0052	VF-11/4A	1.53.2.0003	WA-11/4	1.53.4.0004	6.35.7.0000	6.35.4.0274
VEE-100L-040.3EURO	1.42.1.0005	VF-11/4A	1.53.2.0003	WA-11/4	1.53.4.0004	6.35.7.0000	6.35.4.0275
VEE-100L-040.3MULTI	1.42.1.0071	VF-11/4A	1.53.2.0003	WA-11/4	1.53.4.0004	6.35.7.0000	6.35.4.0275
VEE-100L-063.3EURO	1.42.1.0006	VF-11/4A	1.53.2.0003	WA-11/4	1.53.4.0004	6.35.7.0001	6.35.4.0276
VEE-100L-063.3MULTI	1.42.1.0074	VF-11/4A	1.53.2.0003	WA-11/4	1.53.4.0004	6.35.7.0001	6.35.4.0276
VEE-100L-0100.3EURO	1.42.1.0001	VF-11/4A	1.53.2.0003	WA-11/4	1.53.4.0004	6.35.7.0001	6.35.4.0277
VEE-100L-0100.3MULTI	1.42.1.0077	VF-11/4A	1.53.2.0003	WA-11/4	1.53.4.0004	6.35.7.0001	6.35.4.0277
VEE-200L-040.3EURO	1.42.1.0015	VF-11/4B	1.53.2.0004	WA-11/2	1.53.4.0005	6.35.7.0000	6.35.4.0275
VEE-200L-040.3MULTI	1.42.1.0085	VF-11/4B	1.53.2.0004	WA-11/2	1.53.4.0005	6.35.7.0000	6.35.4.0275
VEE-200L-063.3EURO	1.42.1.0016	VF-11/4B	1.53.2.0004	WA-11/2	1.53.4.0005	6.35.7.0001	6.35.4.0276
VEE-200L-063.3MULTI	1.42.1.0088	VF-11/4B	1.53.2.0004	WA-11/2	1.53.4.0005	6.35.7.0001	6.35.4.0276
VEE-200L-0100.3EURO	1.42.1.0010	VF-11/4B	1.53.2.0004	WA-11/2	1.53.4.0005	6.35.7.0001	6.35.4.0277
VEE-200L-0100.3MULTI	1.42.1.0091	VF-11/4B	1.53.2.0004	WA-11/2	1.53.4.0005	6.35.7.0001	6.35.4.0277
VEE-200L-0160.3EURO	1.42.1.0012	VF-11/4B	1.53.2.0004	WA-11/2	1.53.4.0005	6.35.7.0002	6.35.4.0278
VEE-200L-0160.3MULTI	1.42.1.0094	VF-11/4B	1.53.2.0004	WA-11/2	1.53.4.0005	6.35.7.0002	6.35.4.0278

* *motor protection switch with housing for 400V, 50Hz*

** *vacuum generator is switched on and off depending on vacuum level (energy saving module).*

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Vacuum Pumps

Vacuum energy unit with oil-lubricated pump VEE ... 0

Technical data

Type	Vacuum (mbar)	Volumen (l)	Suction volume (m³/h) 50 Hz	Suction volume (m³/h) 60 Hz	Suction volume (l/s) 50 Hz	Suction volume (l/s) 60 Hz	Rotation speed (1/min) 50 Hz	Rotation speed (1/min) 60 Hz	Oil q'ty (l)	Weight (kg)	Noise level dB (A)*
VEE-15L-010.1	-980	15	10	12	2,77	3,33	2800	3400	0,5	36	59
VEE-50L-016.1	-980	50	16	19	4,44	5,28	2700	3280	0,5	54	60
VEE-50L-025.3EURO	-980	50	25	---	6,94	---	1410	---	1,0	74	62
VEE-50L-025.3MULTI	-980	50	25	30	6,94	8,33	1435	1750	1,0	74	62
VEE-100L-025.3EURO	-980	50	25	---	6,94	---	1410	---	1,0	90	62
VEE-100L-025.3MULTI	-980	50	25	30	6,94	8,33	1435	1750	1,0	90	62
VEE-100L-040.3EURO	-980	100	40	---	11,11	---	1420	---	1,0	92	64
VEE-100L-040.3MULTI	-980	100	40	48	11,11	13,33	1440	1730	1,0	92	64
VEE-100L-063.3EURO	-980	100	63	---	17,50	---	1425	---	2,0	107	65
VEE-100L-063.3MULTI	-980	100	63	76	17,50	21,11	1450	1740	2,0	107	65
VEE-100L-0100.3EURO	-980	100	100	---	27,78	---	1445	---	2,0	126	67
VEE-100L-0100.3MULTI	-980	100	100	120	27,78	33,33	1450	1740	2,0	126	67
VEE-200L-040.3EURO	-980	200	40	---	11,11	---	1420	---	1,0	133	64
VEE-200L-040.3MULTI	-980	200	40	48	11,11	13,33	1440	1730	1,0	133	64
VEE-200L-063.3EURO	-980	200	63	---	17,50	---	1425	---	2,0	150	65
VEE-200L-063.3MULTI	-980	200	63	76	17,50	21,11	1450	1740	2,0	150	65
VEE-200L-0100.3EURO	-980	200	100	---	27,78	---	1445	---	2,0	170	67
VEE-200L-0100.3MULTI	-980	200	100	120	27,78	33,33	1450	1740	2,0	170	67
VEE-200L-0160.3EURO	-980	200	160	---	44,44	---	1460	---	6,0	230	70
VEE-200L-0160.3MULTI	-980	200	160	190	44,44	52,77	1475	1765	6,0	230	70

** Specification at 50 Hz*

Electrical data

Type	Power (kW) 50 Hz	Power (kW) 60 Hz	Voltage (V) 50 Hz	Voltage (V) 60 Hz	Current consumption (A) 50 Hz	Current consumption (A) 60 Hz	Safety category	Efficiency category
VEE-15L-010.1	0,37	0,45	200-240/346-415	200-277/346-480	2,1/1,2	1,9/1,1	IP54	IE1
VEE-50L-016.1	0,55	0,65	200-240/345-420	200-277/346-480	2,6/1,5	2,6/1,5	IP54	IE1
VEE- ... -025.3EURO	0,75	---	200-240/345-420	---	3,2/1,9	---	IP54	IE2
VEE- ... -025.3MULTI	1,1	1,2	190-208/380-415	220-230/440-460	4,8/2,4	4,8/2,4	IP54	IE2
VEE- ... -040.3EURO	1,1	---	200-240/345-420	---	4,6/2,7	---	IP54	IE2
VEE- ... -040.3MULTI	1,5	1,7	190-208/380-415	220-230/440-460	7,0/3,5	6,6/3,3	IP54	IE2
VEE- ... -063.3EURO	1,5	---	200-240/345-420	---	5,8/3,3	---	IP54	IE2
VEE- ... -063.3MULTI	2,0	2,4	190-208/380-415	220-230/440-460	9,4/4,7	9,4/4,7	IP54	IE2
VEE- ... -0100.3EURO	2,2	---	200-240/345-420	---	8,6/5,0	---	IP54	IE2
VEE- ... -0100.3MULTI	2,7	3,4	190-208/380-415	220-230/440-460	11,8/5,9	12,4/6,2	IP54	IE2
VEE- ... -0160.3EURO	4,0	---	200-240/345-420	---	13,5/8,0	---	IP54	IE2
VEE- ... -0160.3MULTI	5,5	6,6	190-208/380-415	220-230/440-460	24,4/12,2	23,8/11,9	IP54	IE2

Vacuum Pumps

Vacuum energy unit with oil-lubricated pump VEE ... 0

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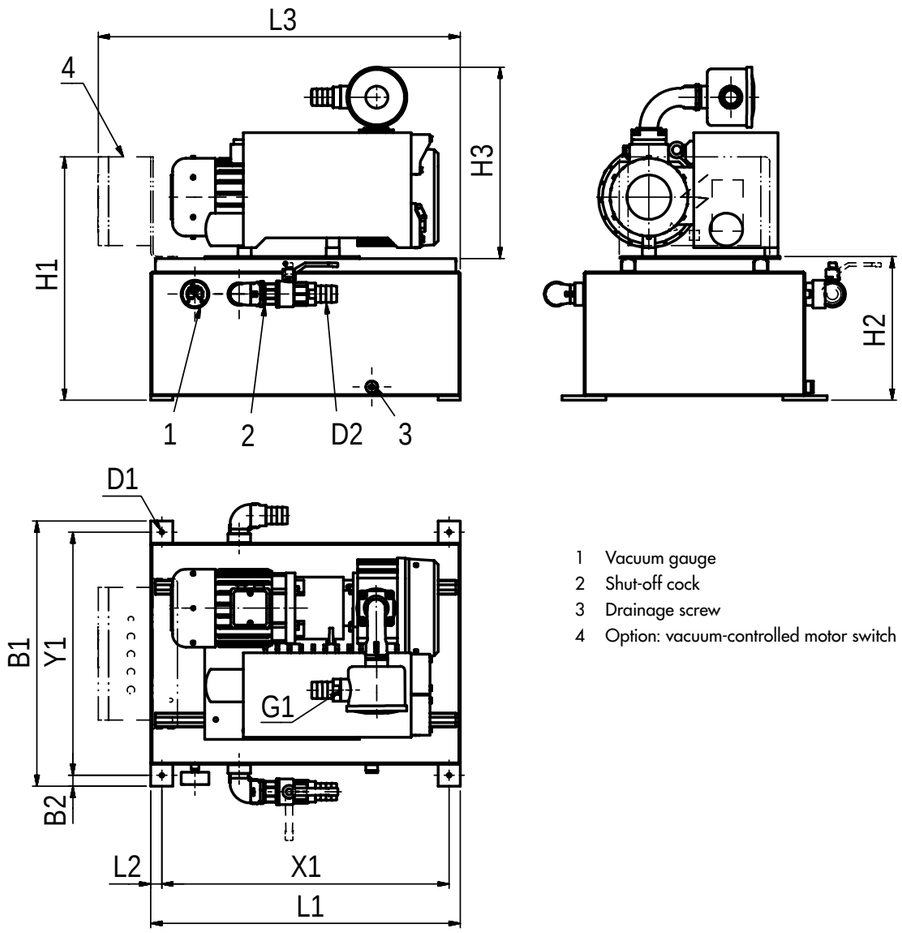


1 Vacuum gauge
2 Shut-off cock
3 Drainage screw
4 Option: vacuum-controlled motor switch

VEE-15L-016 ... VEE-200L-0160

Vacuum Pumps

Vacuum energy unit with oil-lubricated pump VEE ... 0

FEZER
Simply move more.

Dimensions

Type	L1	L2	L3	B1	B2	H1	H2	H3	D1	D2	X1	Y1
VEE-15L-010.1	450	25	570	380	25	360	158	360	8,5	3/4"	400	330
VEE-50L-016.1	450	25	570	380	25	360	158	360	8,5	3/4"	400	330
VEE-50L-025.3EURO	450	25	570	380	25	360	158	471	8,5	3/4"	400	330
VEE-50L-025.3MULTI	450	25	570	380	25	360	158	471	8,5	3/4"	400	330
VEE-100L-025.3EURO	700	25	820	500	25	420	220	471	8,5	1"	650	450
VEE-100L-025.3MULTI	700	25	820	500	25	420	220	471	8,5	1"	650	450
VEE-100L-040.3EURO	700	25	820	500	25	420	220	471	8,5	1"	650	450
VEE-100L-040.3MULTI	700	25	820	500	25	420	220	471	8,5	1"	650	450
VEE-100L-063.3EURO	700	25	820	500	25	420	220	482	8,5	1"	650	450
VEE-100L-063.3MULTI	700	25	820	500	25	420	220	482	8,5	1"	650	450
VEE-100L-0100.3EURO	700	25	820	600	25	520	320	482	8,5	38	650	550
VEE-100L-0100.3MULTI	700	25	820	600	25	520	320	482	8,5	38	650	550
VEE-200L-040.3EURO	700	25	820	600	25	520	320	471	8,5	38	650	550
VEE-200L-040.3MULTI	700	25	820	600	25	520	320	471	8,5	38	650	550
VEE-200L-063.3EURO	700	25	820	600	25	520	320	482	8,5	38	650	550
VEE-200L-063.3MULTI	700	25	820	600	25	520	320	482	8,5	38	650	550
VEE-200L-0100.3EURO	1000	25	1120	800	25	540	338	482	11	38	950	750
VEE-200L-0100.3MULTI	1000	25	1120	800	25	540	338	482	11	38	950	750
VEE-200L-0160.3EURO	1000	25	1120	800	25	540	338	615	11	38	950	750
VEE-200L-0160.3MULTI	1000	25	1120	800	25	540	338	615	11	38	950	750

Vacuum Blowers

directly driven SKV

FEZER
Simply move more.

Description

Directly driven, air-cooled vacuum blower made of solid aluminum diecast housing and precision carrying wheel. The contact-free run of the carrying wheel guarantees a low-wear and low-maintenance operation of the blower. Depending on the type the blowers are available in one-stage or double-stage design.

Application

- handling of highly porous workpieces like chipboards, MDF-board, cardboard boxes etc.
- control of the vacuum by reversing valve UV
- any mounting position

SKV- ...

Article number

Type		suitable vacuum filter		Motor protection switch*
SKV-100/2-1,5kW	1.43.1.0034	VF-11/4A	1.53.2.0003	6.35.7.0002
SKV-160/2-3,0kW	1.43.1.0035	VF-11/4B	1.53.2.0004	6.35.7.0005
SKV-180/1-2,0kW	1.43.1.0036	SFS-50	4.26.4.0121	6.35.7.0002
SKV-240/2-3,0kW	1.43.1.0037	SFS-50	4.26.4.0121	6.35.7.0005
SKV-290/1-3,0kW	1.43.1.0038	SFS-50	4.26.4.0121	6.35.7.0005
SKV-350/2-9,0kW	1.43.1.0039	SFS-50	4.26.4.0121	6.35.7.0018
SKV-470/1-5,5kW	1.43.1.0040	SFS-50	4.26.4.0121	6.35.7.0005
SKV-720/1-9,0kW	1.43.1.0041	SFS-50	4.26.4.0121	6.35.7.0018

** motor protection switch for 400V, 50Hz*

Vacuum Blowers

directly driven SKV

FEZER
Simply move more.

Technical data

Type	Vacuum (mbar)		Suction volume (m³/h)		Suction volume (l/s)		Rotation speed (1/min)		Weight (kg)	Noise level dB (A) *
	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz		
SKV-100/2-1,5kW	-375	-375	98	117	27	32	2900	3400	32	68
SKV-160/2-3,0kW	-400	-400	162	189	45	52	2900	3400	40	76
SKV-180/1-2,0kW	-250	-280	181	217	50	60	2900	3400	32	69
SKV-240/2-3,0kW	-325	-300	240	290	67	81	2900	3400	40	76
SKV-290/1-3,0kW	-275	-270	293	338	81	94	2900	3400	49	74
SKV-350/2-9,0kW	-400	-400	355	435	98	121	2900	3400	115	71
SKV-470/1-5,5kW	-300	-270	472	485	13	135	2900	3400	95	74
SKV-720/1-9,0kW	-285	-265	720	895	200	248	2900	3400	110	75

** at 50 Hz*

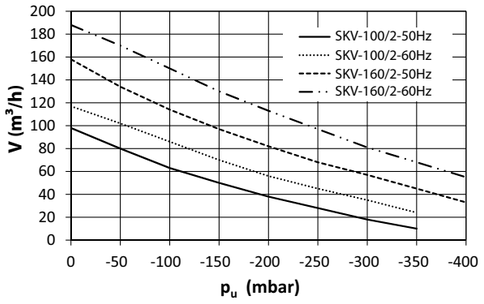
Electrical data

Type	Power (kW)		Voltage (V)		Current consumption (A)		Safety category	Efficiency category
	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz		
SKV-100/2-1,5kW	1,5	1,8	190-255/330-440	190-290/330-500	6,0-7,0/3,5-4,0	7,5-6,1/4,3-3,5	IP55	IE1
SKV-160/2-3,0kW	3,0	3,6	230/400 +/-10%	230/400 +/-10%	12,5/7,2	12,5/7,2	IP55	IE1
SKV-180/1-2,0kW	2,0	2,4	190-255/330-440	190-290/330-500	8,0-8,5/4,6-4,9	9,7-7,8/5,6-4,5	IP55	IE1
SKV-240/2-3,0kW	3,0	3,6	190-255/330-440	190-290/330-500	12,5/7,2	12,5/7,2	IP55	IE1
SKV-290/1-3,0kW	3,0	3,6	230/400 +/-10%	230/400 +/-10%	12,5/7,2	12,5/7,2	IP55	IE1
SKV-350/2-9,0kW	9,0	9,0	400/690 +/-10%	400/690 +/-10%	16,4/9,5	16,0/9,2	IP55	IE2
SKV-470/1-5,5kW	5,5	6,4	400/690 +/-10%	400/690 +/-10%	10,4/6,0	11,5/6,6	IP55	IE2
SKV-720/1-9,0kW	9,0	9,0	400/690 +/-10%	400/690 +/-10%	16,4/9,5	16,0/9,2	IP55	IE2

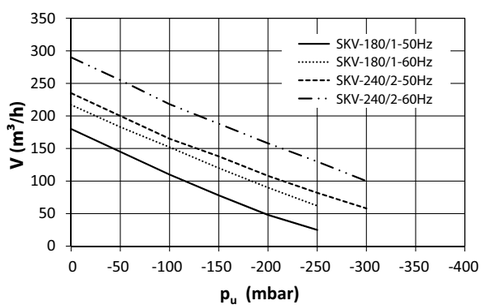
Vacuum Blowers

directly driven SKV

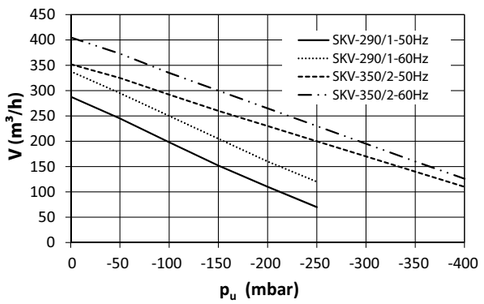
FEZER
Simply move more.



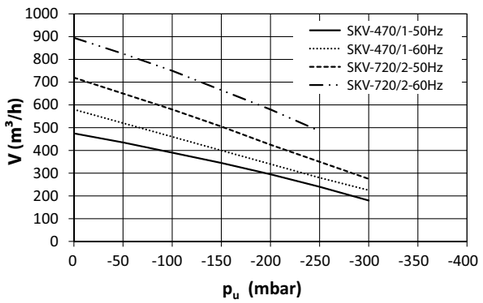
Suction capacity SKV-100 ... SKV-160 in dependance to evacuation grade



Suction capacity SKV-180 ... SKV-240 in dependance to evacuation grade



Suction capacity SKV-290 ... SKV-350 in dependance to evacuation grade

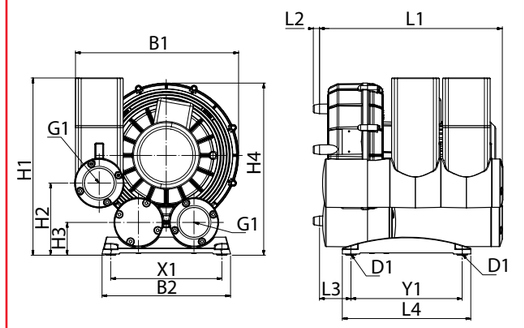


Suction capacity SKVD-470 ... SKVD-720 in dependance to evacuation grade

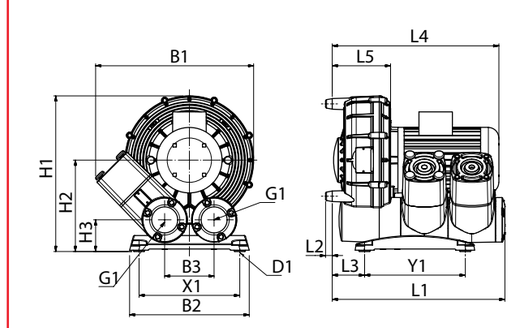
Vacuum Blowers

directly driven SKV

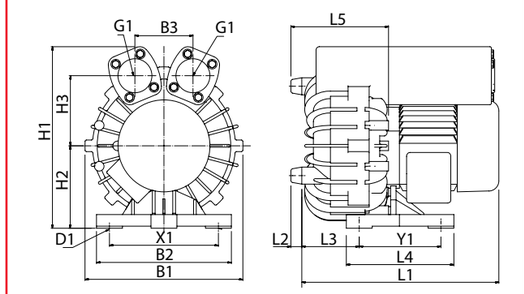
FEZER
Simply move more.



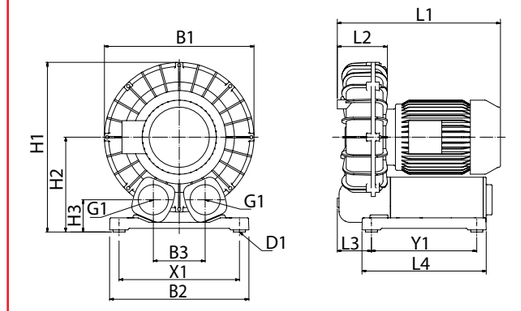
SKV-100-, SKV-160-, SKV-240-



SKV-180-, SKV-290-



SKV-350-



SKV-470-, SKV-720-

Dimensions

Type	L1	L2	L3	L4	L5	B1	B2	B3	H1	H2	H3	H4	D1	G1	X1	Y1
SKV-100/2-1,5kW	413	16	77	285	---	349	285	---	402	148	72	371	11	G11/4	240	240
SKV-160/2-3,0kW	464	16	70	335	---	420	335	---	449	196	90	449	12	G21/2	290	290
SKV-180/1-2,0kW	412	16	77	397	139	377	285	118	371	218	76	---	12	G2	240	240
SKV-240/2-3,0kW	497	16	82	335	---	420	335	---	449	195	92	---	12	G21/2	290	290
SKV-290/1-3,0kW	464	16	70	335	142	498	335	---	449	261	86	---	12	G21/2	290	290
SKV-350/2-9,0kW	657	16	141	410	207	497	460	339	666	348	199	---	M8	G4	400	350
SKV-470/1-5,5kW	515	16	114	480	167	497	460	172	515	282	74	---	M8	G3	400	350
SKV-720/1-9,0kW	515	16	149	560	207	497	460	184	666	315	93	---	M8	G4	400	350

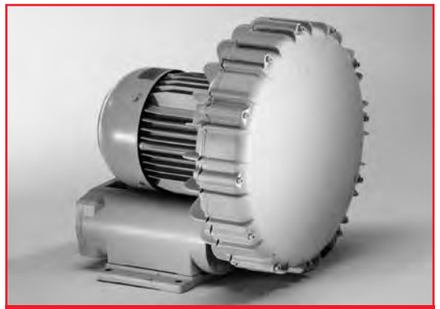
Vacuum Blowers

with fly-wheel SD

FEZER
Simply move more.

Description

Directly driven vacuum blower with solid diecast housing and closed grooved ball bearing with life-time lubrication. The blower is equipped with a fly-wheel which guarantees an increased deceleration. Ribs on the housing and cover allow a very good heat conduction. As a standard with mounted silencer to reduce the noise level.



SD- ...

Application

- handling of highly porous workpieces like chipboards, MDF-board, cardboard boxes etc.
- use for manual handling devicers. The fly-wheel guarantees an increased rotation time in case of a power failure(DIN EN 13155)
- control of the vacuum by reversing valve
- any mounting position

Article number

Type		suitable vacuum filter		Motor protection switch*
SD-4-170-230/400V-1,1kW	1.43.1.0010	VF-2 1/2	1.53.2.0005	6.35.7.0001
SD-400-170-230/400V-1,5kW	1.43.1.0028	VF-2 1/2	1.53.2.0005	6.35.7.0001
SD-6-280-230/400V-2,3kW	1.43.1.0013	VF-2 1/2	1.53.2.0005	6.35.7.0002

** motor protection switch with housing for 400V, 50Hz*

Vacuum Blowers

with fly-wheel SD

FEZER
Simply move more.

Technical data

Type	Vacuum (mbar)	Suction volume (m³/h)		Suction volume (l/s)		Rotation speed (1/min)		Weight (kg)	Noise level dB (A)*
		50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz		
SD-4-170-230/400V-1,1kW	-185	168	204	46,7	56,7	2830	3400	22	76
SD-400-170-230/400V-1,5kW	-260	168	204	46,7	55,7	2840	3450	23	76
SD-6-280-230/400V-2,3kW	-230	276	324	76,7	90,0	2870	3480	33	78

** at 50 Hz*

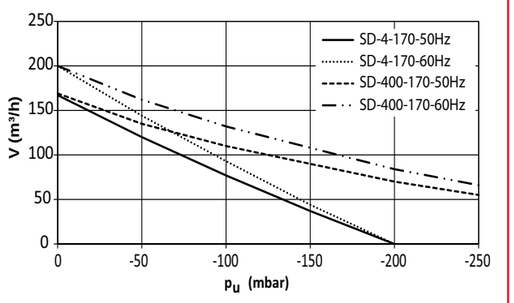
Electrical data

Type	Power (kW)		Voltage (V)		Current consumption (A)		Safety category	Efficiency category
	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz		
SD-4-170-230/400V-1,1kW	1,1	1,32	230/400	277/480	4,00/2,30	3,75/2,15	IP 54	IE2
SD-400-170-230/400V-1,5kW	1,5	1,8	230/400	277/480	5,20/3,00	5,30/3,05	IP 54	IE2
SD-6-280-230/400V-2,3kW	2,3	2,74	230/400	277/480	7,55/4,35	7,7/4,45	IP 54	IE2

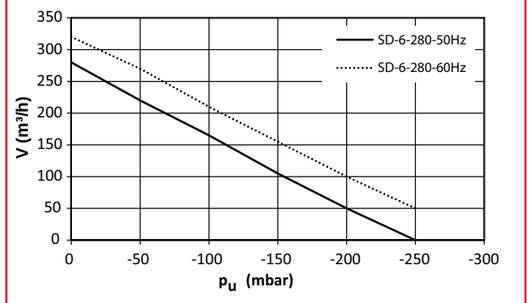
Vacuum Blowers

with fly-wheel SD

FEZER
Simply move more.



Suction capacity SD-4/400 in dependance to evacuation grade

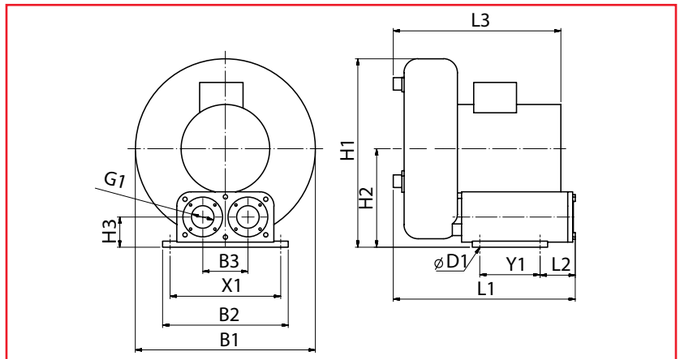


Suction capacity SD-6 in dependance to evacuation grade

Vacuum Blowers

with fly-wheel SD

FEZER
Simply move more.



SD- ...

Dimensions

Type	L1	L2	L3	B1	B2	B3	H1	H2	H3	D1	G1	X1	Y1
SD4-170-230/400V-1,1kW	358	66	332	358	220	90	375	196	60	11	G11/2	220	120
SD-400-170-230/400V-1,5kW	358	66	332	358	220	90	375	196	60	11	G11/2	220	120
SD-6-280-230/400V-2,3kW	435	72	383	396	350	125	423	225	80	13	G2	310	160

1. Basics
2. Suction Pads
3. Mounting Elements
4. Vacuum Generators
5. Vacuum Technology
6. Vakcuum Supervision
7. Filter Elements
8. Connection Elements
9. System Technology

Blowers

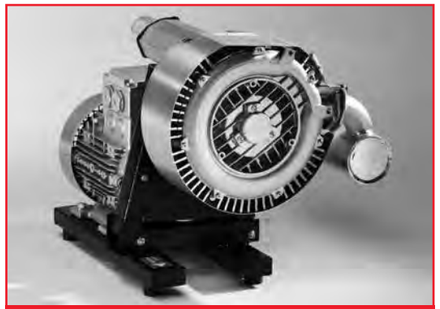
belt-driven SKE

FEZER
Simply move more.

Description
Belt-driven vacuum blower with solid diecast housing and closed grooved bearing and lifetime lubrication. Ribs on the housing and cover allow a very good heat conduction, which supports the motor airflow.

As a standard with mounted silencers to reduce the noise level. Additionally a silencer box can be added, which makes a noise reduction to ca. 65 dB(A) possible.

Application
- handling of very porous workpieces like chipboards, MDF-board, cardboard boxes etc.
- to be used with tube lifters
- requires stable, horizontal installation position



SKE- ...

Article number

Type		suitable Vacuum filter		Motor protection switch*
SKE-0080-230/400V-2,2kW	4.26.3.0008	SFS-50	4.26.4.0121	6.35.7.0002
SKE-0080-230/400V-3,0kW	4.26.3.0043	SFS-50	4.26.4.0121	6.35.7.0005
SKE-0120-230/400V-4,0kW	4.26.3.0010	SFS-50	4.26.4.0121	6.35.7.0005

** Motor protection switch with housing for 400V, 50Hz*

Blowers
belt-driven SKE
FEZER
Simply move more.

Technical data

Type	Vacuum (mbar)	Suction volume (m³/h) 50 Hz	Suction volume (m³/h) 60 Hz	Suction volume (l/s) 50 Hz	Suction volume (l/s) 60 Hz	Rotation speed (1/min) 50 Hz	Rotation speed (1/min) 60 Hz	Weight (kg)	Noise level dB (A)*
SKE-0080-230/400V-2,2kW	-500	168	---	46,67	---	2890	---	42	79
SKE-0080-230/400V-3,0kW	-500	190	---	46,67	---	2905	---	46	79
SKE-0120-230/400V-4,0kW	-500	288	---	80,00	---	2950	---	50	83

** at 50 Hz*

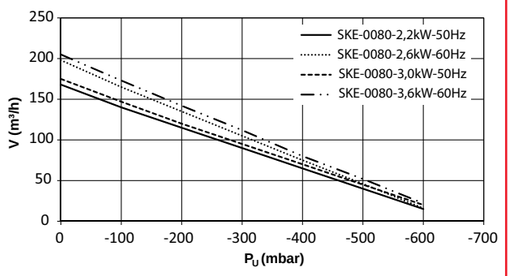
Electrical data

Type	Power (kW) 50 Hz	Power (kW) 60 Hz	Voltage (V) 50 Hz	Voltage (V) 60 Hz	Current consumption (A) 50 Hz	Current consumption (A) 60 Hz	Safety category	Efficiency category
SKE-0080-230/400V-2,2kW	2,2	---	230/400 +/-10%	---	7,6/4,4	---	IP55	IE2
SKE-0080-230/400V-3,0kW	3,0	---	230/400 +/-10%	---	10,6/6,1	---	IP55	IE2
SKE-0120-230/400V-4,0kW	4,0	---	230/400 +/-10%	---	13,6/7,8	---	IP55	IE2

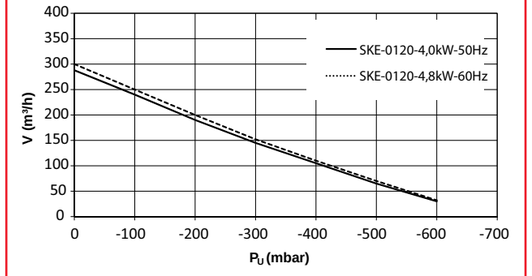
Blowers

belt-driven SKE

FEZER
Simply move more.



Suction capacity SKE-080 in dependance to evacuation grade

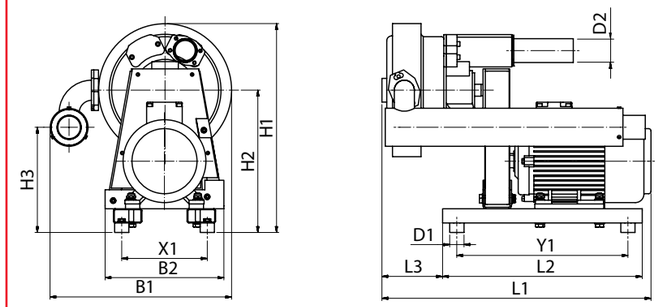


Suction capacity SKE-0120 in in dependance to evacuation grade

Blowers

belt-driven SKE

FEZER
Simply move more.



SKE- ...

Dimensions

Type	L1	L2	L3	B1	B2	H1	H2	H3	D1	D2	X1	Y1
SKE-0080-230/400V-2,2kW	566	420	125	382	250	440	300	221	30	50	180	360
SKE-0080-230/400V-3,0kW	620	420	125	382	250	440	300	221	30	50	180	360
SKE-0120-230/400V-4,0kW	650	420	125	382	250	470	300	221	30	50	180	360

FEZER
Simply move more.

Blowers

Silencer box SDB

Description
Silencer box made of laminated plastic and glued-in insulation material for belt-driven blowers (SKE- ...).
The silencer box reduces the noise level by ca. 8 - 10 db(A)

Application:
- environments with low noise level requirements

SKVR- ...

Article number

Type	Article number
SDB-SKVR-170	4.26.3.0031
SDB-SKVR-280	4.26.3.0032

Technical data

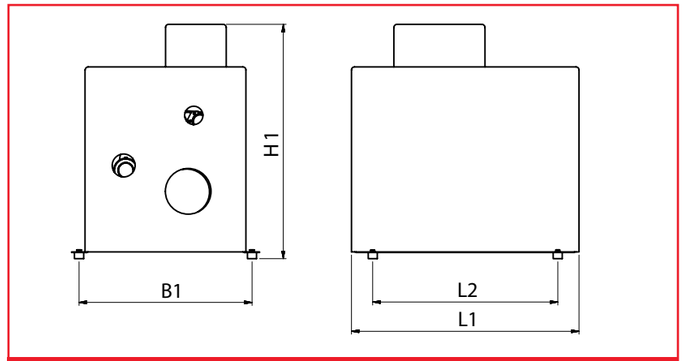
Type	Weight (kg)	Noise level reduction dB (A) *
SDB-SKVR-170	21,0	- 10
SDB-SKVR-280	21,0	- 8

** at 50 Hz operational frequency*

FEZER
Simply move more.

Blowers

Silencer box SDB



SKVR- ...

Dimensions

Type	L1	L2	B1	H1
SDB-SKVR-170	750	610	570	772
SDB-SKVR-280	750	610	570	772

Acessories for Vacuum Pumps and Blowers

FEZER
Simply move more.

Motor protection switch MSS

Description
Motor protection switch with housing protect the vacuum generator from too a current consumption.
The motor protection switches are available in normal and lockable design, to ensure against unintentional switch-on during maintanence.

Application
- to protect pumps and blowers from damages

MSS ...

Article number

Type	normal design	lockable design
MSS-0,63-1	6.35.7.0007	6.35.7.0016
MSS-1-1,6	6.35.7.0003	6.35.7.0012
MSS-1,6-2,5	6.35.7.0004	6.35.7.0013
MSS-2,5-4	6.35.7.0000	6.35.7.0009
MSS-4-6,3	6.35.7.0001	6.35.7.0010
MSS-6,3-10	6.35.7.0002	6.35.7.0011
MSS-10-16	6.35.7.0005	6.35.7.0014
MSS-16-20	6.35.7.0018	6.35.7.0019
MSS-20-25	6.35.7.0008	6.35.7.0017

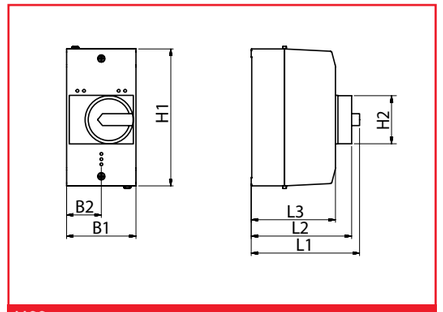
Technical data

Type	Mains voltage (V)	Motor nom. current (A)	Weight (kg)
MSS-0,63-1	400	0,63 - 1,0	0,6
MSS-1-1,6	400	1,0 - 1,6	0,6
MSS-1,6-2,5	400	1,6 - 2,5	0,6
MSS-2,5-4	400	2,5 - 4,0	0,6
MSS-4-6,3	400	4,0 - 6,3	0,6
MSS-6,3-10	400	6,3 - 10	0,6
MSS-10-16	400	10 - 16	0,6
MSS-16-20	400	16 - 20	0,6
MSS-20-25	400	20 - 25	0,6

Zubehör for Vacuum pumps and -gebläse

FEZER
Simply move more.

Motor protection switch MSS



MSS ...

Dimensions

Type	L1	L2	L3	B1	B2	H1	H2
MSS ...	125	116	97	80	40	158	55

Accessories for Vacuum Pumps and Blowers

FEZER
Simply move more.

Vacuum-controlled motor switch VMS

Description
Suitable for vacuum energy units. Via a vacuum switch the vacuum pump is switched on and off - depending on the actual vacuum.

Scope of delivery
Control box with installed motor protection switch, power supply unit (24V DC), contactor and terminal strip, cable (5m), connection cable to pump (5m), connection cable for vacuum switch VSD- 1/8 (2m) and grounding cable (0,5m). Please order the vacuum switch separately.

Application
- in connection with vacuum energy units
- to control vacuum pumps in dependance to vacuum level
- energy conservation as the vacuum generator is only switched on when it is actually required

VMS ...

Article number

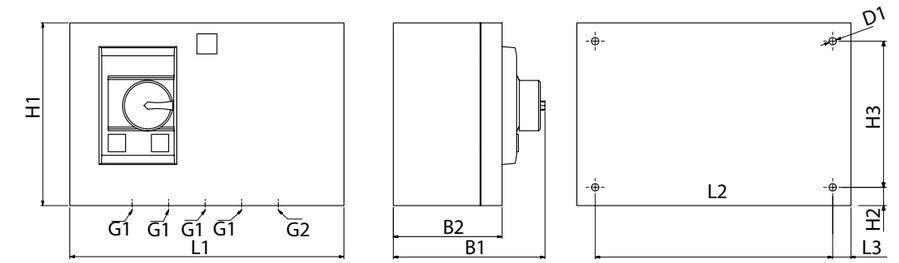
VMS- for oilless pumps		VMS- for oil-lubricated pumps	
VP-TF4.2-24V-0,05kW*	6.35.4.0291	VP-010.1-230/400V	6.35.4.0272
VP-TF4.4-24V-0,17kW*	6.35.4.0292	VP-016.1-230/400V	6.35.4.0273
VP-TF4.6-24V-0,25kW*	6.35.4.0293	VP-025.3EURO-230/400V	6.35.4.0274
VP-T4.8-230V	6.35.4.0290	VP-025.3MULTI-230/400V	6.35.4.0281
VP-T4.8-230/400V	6.35.4.0263	VP-040.3EURO-230/400V	6.35.4.0275
VP-T4.16-230V	6.35.4.0289	VP-040.3MULTI-230/400V	6.35.4.0282
VP-T4.16-230/400V	6.35.4.0264	VP-063.3EURO-230/400V	6.35.4.0276
VP-T4.25-230/400V	6.35.4.0265	VP-063.3MULTI-230/400V	6.35.4.0283
VP-T4.40-230/400V	6.35.4.0266	VP-0100.3EURO-230/400V	6.35.4.0277
VP-T4.50-230/400V	6.35.4.0288	VP-0100.3MULTI-230/400V	6.35.4.0284
VP-T4.60-EURO-230/400V	6.35.4.0267	VP-0160.3EURO-230/400V	6.35.4.0278
VP-T4.80-EURO-230/400V	6.35.4.0268	VP-0160.3MULTI-230/400V	6.35.4.0285
VP-T4.100-EURO-230/400V	6.35.4.0269	VP-0250.3EURO-230/400V	6.35.4.0287
VP-T4.140-EURO-230/400V	6.35.4.0270	VP-0250.3MULTI-230/400V	6.35.4.0286
VP-T4.250-EURO-400/690V	6.35.4.0271		

* w/o motor protection switch

Technical data

Type	Mains voltage (V)	Control voltage (V)	Current range	Weight (kg)
VMS- ... -24V	24	24	2,0 ... 16	4,0
VMS- ... -230V	230	24	1,6 ... 4,6	6,5
VMS- ... -230/400	230/400	24	1,0 ... 31	6,5

Accessories for Vacuum Pumps and Blowers
Vacuum-controlled motor switch VMS
FEZER
Simply move more.



VMS ...

Dimensions

Type	L1	L2	L3	B1	B2	H1	H2	H3	D	G1	G2
VMS ...	300	260	20	166	119	200	20	120	8	M16	M12

Ejectors

Inline ejector FIG

FEZER
Simply move more.

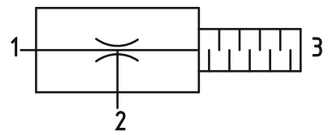
Description
Inline ejector for installation in suspension bolt assembly with compressed air supply. The ejector consists of a stable aluminum body with brass nozzle. Available in 3 different powers.

Application
- for direct installation in suspension bolt
- use in handling systems with different occupancy grades
- evacuation of small volumes
- any mounting position

FIG-05 ... FIG-09

Article number

Type	Article number
FIG-05	1.44.1.0001
FIG-07	1.44.1.0002
FIG-09	1.44.1.0003



Schaltbild FIG

1 Compressed air connection
2 Vacuum connection
3 Exhaust

Ejectors
Inline ejector FIG
FEZER
Simply move more.

Technical data

Type	Vacuum*	Suction volume*		Air consumption*		Pressure** (bar)		Noise level*	Temperature	Weight
	(mbar)	(l/s)	(m^3/h)	(l/min)	(m^3/h)	max.	opt.	dB (A)	(°C)	(kg)
FIG-05	-870	0,12	0,03	12	0,20	2 ... 8	5	62	0 ... +60	0,015
FIG-07	-900	0,23	0,06	21	0,35	2 ... 8	5	64	0 ... +60	0,015
FIG-09	-900	0,35	0,1	36	0,60	2 ... 8	5	67	0 ... +60	0,015

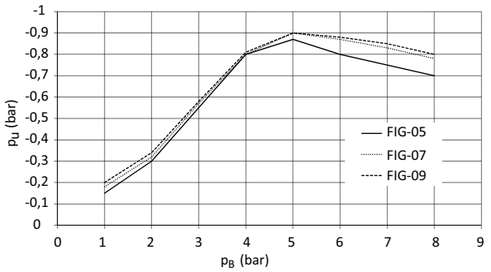
* at optimum operational pressure,
** dry, filtered, oil-free compressed air

Evacuation and ventilation time (s) for 1l volume

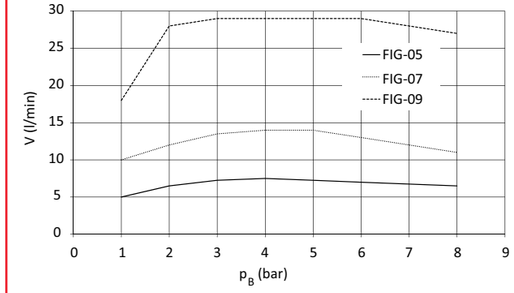
Type	Vacuum level (mbar)								Ventilation time at max. vacuum level
	-100	-200	-300	-400	-500	-600	-700	-800	
FIG-05	0,7	1,5	2,5	3,8	5,6	7,8	12,5	26,8	1,8
FIG-07	0,5	0,9	1,5	2,2	3,3	4,8	7,9	15,8	1,2
FIG-09	0,3	0,5	0,9	1,3	1,9	2,8	4,5	8,8	0,9

Ejectors

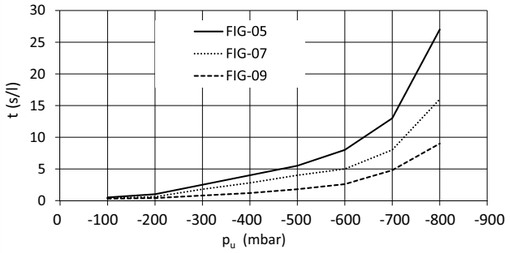
Inline ejector FIG



Vacuum level FIG at different operational pressures



Suction volume FIG at different operational pressures



Evacuation time FIG at different operational pressures

FEZER
Simply move more.

Ejectors

Inline ejector FIG

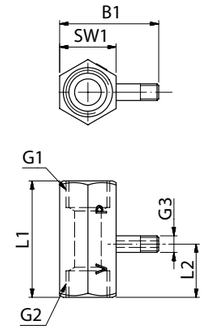


FIG-05 ... FIG-09

Dimensions

Type	L1	L2	B1	G1	G2	G3	SW
FIG-05	35	16	21,3	G1/4	G1/4	M5	17
FIG-07	35	16	21,3	G1/4	G1/4	M5	17
FIG-09	35	16	21,3	G1/4	G1/4	M5	17

1. Basics
2. Suction Pads
3. Mounting Elements
4. Vacuum Generators
5. Valve Technology
6. Vakcuum Supervision
7. Filter Elements
8. Connection Elements
9. System Technology

Ejectors

Inline ejector FIS

FEZER
Simply move more.

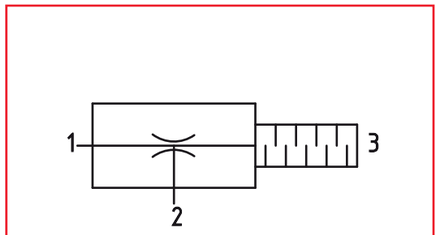
Description
Low-weight inline ejector in stable plastic design for direct installation in hose lines.
Installation with plug connections which allow a simple and quick mounting of the ejectors.

Application
- for direct installation in hose lines
- use in handling systems with different occupancy grades
- evacuation of small volumes
- any mounting position

FIS-05 ... FIS-10

Article number

Type	Article number
FIS-05	1.44.1.0067
FIS-07	1.44.1.0061
FIS-10	1.44.1.0068



Schaltbild FIS

1 Compressed air connection
2 Vacuum connection
3 Exhaust

Ejectors

Inline ejector FIS

FEZER
Simply move more.

Technical data

Type	Vacuum*	Suction volume*		Air consumption*		Pressure** (bar)		Noise level*	Temperature	Weight
	(mbar)	(m^3/h)	(l/s)	(m^3/h)	(l/s)	max.	opt.	dB (A)	(°C)	(kg)
FIS-05	-860	0,37	0,10	0,72	0,19	2 ... 8	5,0	57	0 ... +60	0,005
FIS-07	-860	0,81	0,22	1,66	0,45	2 ... 8	5,0	62	0 ... +60	0,005
FIS-10	-860	1,68	0,47	3,46	0,96	2 ... 8	5,0	71	0 ... +60	0,010

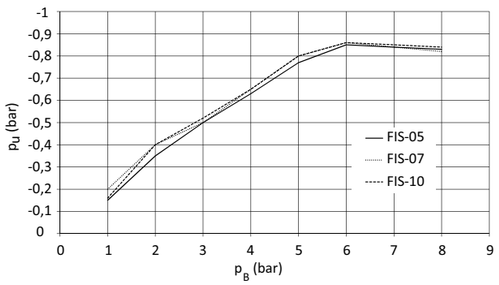
* at optimum pressure
** dry, filtered, oil-free compressed air

Evacuation and ventilation time (s) for 1l volume

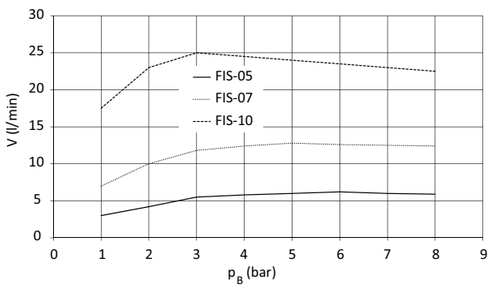
Type	Vacuum level (mbar)								Ventilation time at
	-100	-200	-300	-400	-500	-600	-700	-800	max. vacuum level
FIS-05	1,1	1,5	3,0	4,3	6,0	9,0	12,5	18,4	4,7
FIS-07	1,0	1,1	1,5	2,3	2,9	4,0	6,1	9,3	2,1
FIS-10	0,2	0,4	0,7	1,0	1,4	1,9	2,9	4,7	0,96

Ejectors

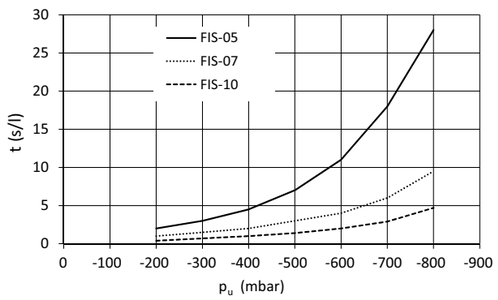
Inline ejector FIS



Vacuum level FIS-HV at different operating pressures



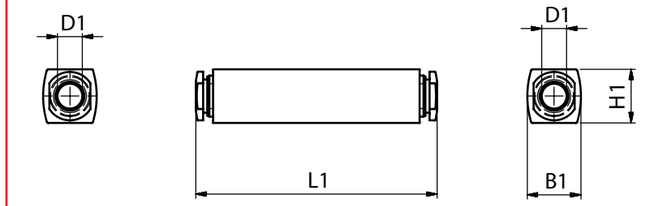
Suction volume FIS-HV at different operating pressures



Evacuation time FIS-HV at different grades of evacuation

Ejectors

Inline ejector FIS



FIS-05 ... FIS-10

Dimensions

Type	L1	B1	H1	D1
FIS-05	58,6	13	13	6
FIS-07	58,6	13	13	6
FIS-10	66,1	13	22	6

Ejectors

Inline ejector FIM

FEZER
Simply move more.

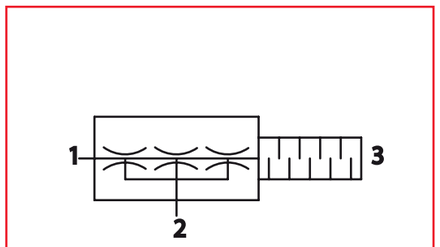
Description
Low-weight multi-stage inline ejector in solid plastic design for direct installation in hose lines. The multi-stage nozzle geometry allows a very quick vacuum with relatively little air consumption. Quick and simple installation of the ejectors by plug connections. There are 3 powers available.

Application
- direct installation in hose lines
- use for handling systems with different occupancy grades
- evacuation of larger volumes
- any mounting position

FIM-10 ... FIM-30

Article number

Type	Article number
FIM-10-HV	1.44.2.0008
FIM-20-HV	1.44.2.0009
FIM-30-HV	1.44.2.0010



Schaltbild FIM

1 Compressed air connection
2 Vacuum connection
3 Exhaust

1. Basics
2. Suction Pads
3. Mounting Elements
4. Vacuum Generators
5. Valve Technology
6. Vakcuum Supervision
7. Filter Elements
8. Connection Elements
9. System Technology

Ejectors

Inline ejector FIM

FEZER
Simply move more.

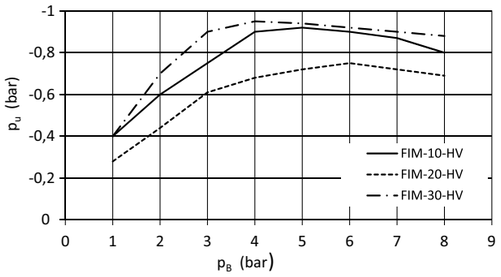
Technical data

Type	Vacuum*	Suction volume*		Air consumption*		Pressure** (bar)		Noise level*	Temperature	Weight
	(mbar)	(m^3/h)	(l/s)	(m^3/h)	(l/s)	max.	opt.	dB (A)	(°C)	(kg)
FIM-10-HV	-840	1,15	0,32	0,97	0,27	2 ... 8	4,0	64 ... 80	0 ... +60	0,010
FIM-20-HV	-900	2,05	0,57	1,58	0,44	2 ... 8	3,1	69 ... 85	0 ... +60	0,030
FIM-30-HV	-900	9,72	2,70	6,58	1,83	2 ... 8	3,0	90 ... 98	0 ... +60	0,090

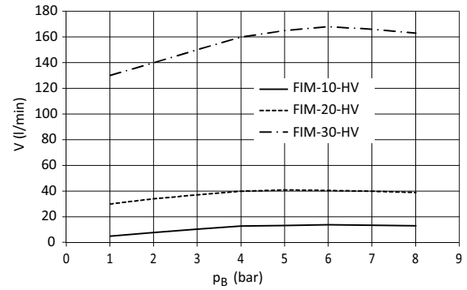
* at optimum pressure
** dry, filtered, oil-free compressed air

Evacuation and ventilation time (s) for 1l volume

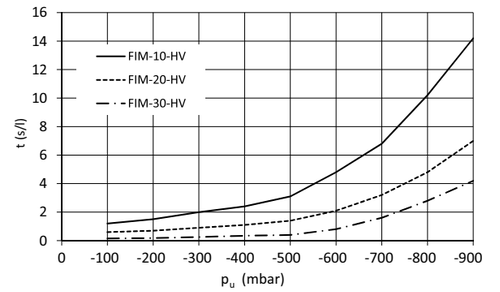
Type	Vacuum level (mbar)								Ventilation time at max. vacuum level
	-100	-200	-300	-400	-500	-600	-700	-800	
FIM-10-HV	0,33	0,73	1,20	2,00	3,10	5,00	8,30	16,60	6,2
FIM-20-HV	0,20	0,46	0,83	1,10	1,80	2,70	4,00	6,40	2,0
FIM-30-HV	0,04	0,10	0,18	0,30	0,48	0,71	1,05	1,85	0,6



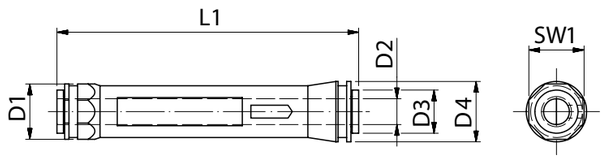
Vacuum level FIM-HV at different operating pressures



Suction volume FIM-HV at different operating pressures



Evacuation time FIM-HV at different grades of evacuation



FIM-10 ... FIM-30

Dimensions

Type	L1	D1	D2	D3	D4	SW1
FIM-10-HV	70	6	6	10	14,2	14
FIM-20-HV	96	8	8	15	19,4	19
FIM-30-HV	155	8	12	20	28,1	28

Ejectors

FEZER
Simply move more.

Basic ejector unit VIP-8-SP

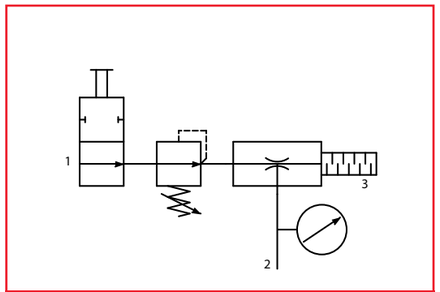
Description
Basic unit consisting of basic ejector, pressure reducer to adjust the operating pressure, vacuum gauge and shut-off cock. The unit comes in a sheet metal housing and is sound-reduced.

Application
- supply of single suction pads
- any mounting position

VIP-8-SP

Article number

Type	Article number
VIP-8-SP	1.44.1.0036



Schaltbild FIM

1 Compressed air connection
2 Vacuum connection
3 Exhaust

Ejectors

FEZER
Simply move more.

Basic ejector unit VIP-8-SP

Technical data

Type	Vacuum* (mbar)	Suction volume* (m^3/h)	(l/s)	Air consumption* (m^3/h)	(l/s)	Pressure** (bar) max.	opt.	Noise level* dB (A)	Temperature (°C)	Weight (kg)
VIP-8-SP	-850	4,8	1,35	7,6	2,1	1 ... 7	4	63	0 ... +60	1,1

* *at optimum pressure,*
** *dry, filtered, oil-free compressed air*

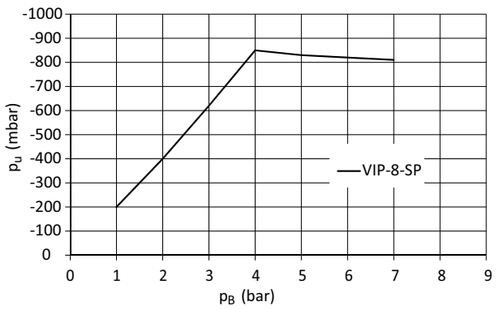
Evacuation and ventilation time (s) for 1l volume

Type	Vacuum level(mbar) -100	-200	-300	-400	-500	-600	-700	-800	Ventilation time at max. vacuum level
VIP-8-SP	0,4	0,6	0,8	1,2	1,6	2,2	3,5	9,2	1,3

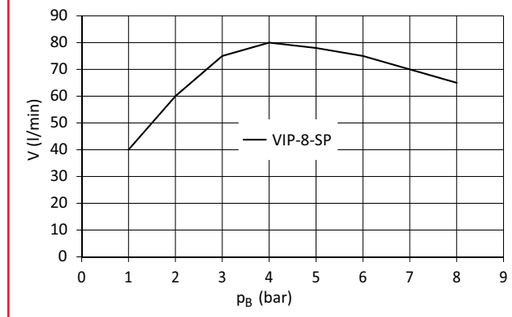
Ejectors

FEZER
Simply move more.

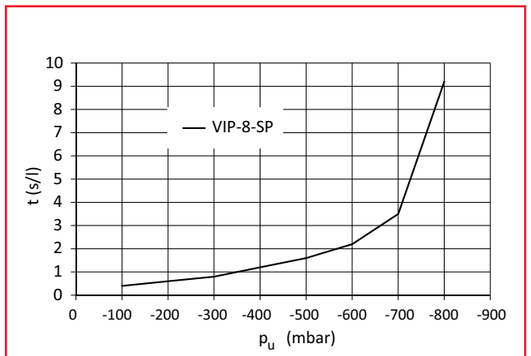
Grandejektoreinheit VIP-8-SP



Vacuum level VIP-8-SP at different pressures



Suction volume VIP-8-SP at different pressures

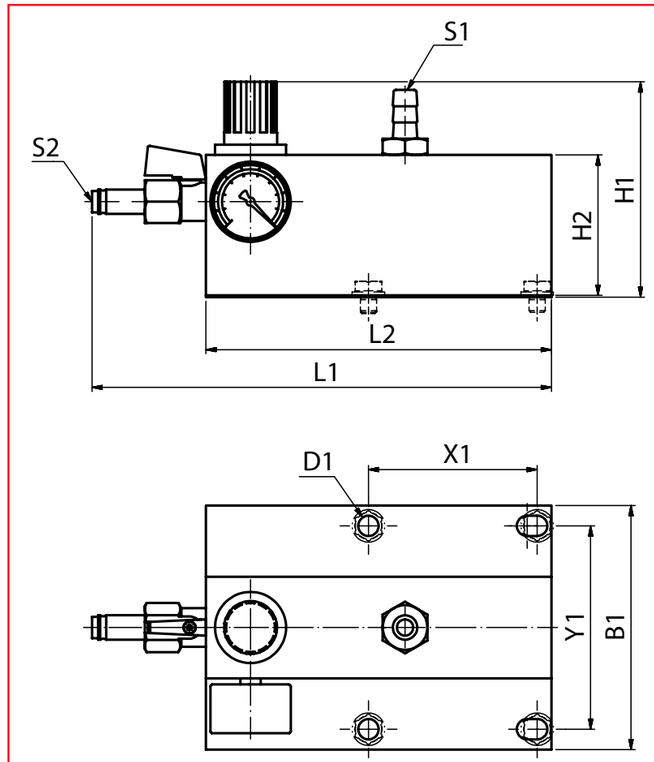


Evacuation time VIP-8-SP at different grades of evacuation

Ejectors

FEZER
Simply move more.

Basic ejector unit VIP-8-SP



VIP-8-SP

Technical data

Type	L1	L2	B1	H1	H2	D1	S1	S2	X1	Y1
VIP-8-SP	226	170	120	106	70	10	10	10	83	100

Ejectors

Basic ejector FEG

FEZER
Simply move more.

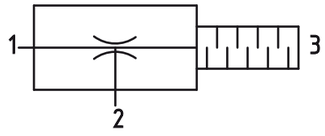
Description
Low weight and small basic ejector with solid plastic housing in t-design with open silencer. There are 6 powers available with either high grade of evacuation (HV) or high suction volume (HS). With plug connections.

Application
- for direct mounting hose lines
- use in handling systems with different occupancy grades
- can be controlled by separate pneumatic valves or valve islands
- any mounting position

FEG-05 ... FEG-30

Article number

Type	
FEG-05-HV	1.44.1.0092
FEG-05-HS	1.44.1.0044
FEG-07-HV	1.44.1.0037
FEG-07-HS	1.44.1.0039
FEG-10-HV	1.44.1.0042
FEG-10-HS	1.44.1.0045
FEG-15-HV	1.44.1.0046
FEG-15-HS	1.44.1.0043
FEG-20-HV	1.44.1.0038
FEG-20-HS	1.44.1.0047
FEG-30-HV	1.44.1.0040
FEG-30-HS	1.44.1.0104



Schaltbild FEG

1 Compressed air connection
2 Vacuum connection
3 Exhaust

Ejectors
Basic ejector FEG
FEZER
Simply move more.

Technical data

Type	Vacuum*	Suction volume*		Air consumption*		Pressure** (bar)		Noise level*	Temperature	Weight
	(mbar)	(m^3/h)	(l/s)	(m^3/h)	(l/s)	max.	opt.	dB (A)	(°C)	(kg)
FEG-05-HV	-880	0,36	0,10	0,66	0,18	2 ... 8	4,5	50	0 ... +60	0,015
FEG-05-HS	-620	0,96	0,27	0,72	0,20	2 ... 8	5,0	52	0 ... +60	0,015
FEG-07-HV	-880	0,96	0,27	1,69	0,47	2 ... 8	4,7	56	0 ... +60	0,015
FEG-07-HS	-530	2,34	0,66	1,69	0,47	2 ... 8	6,2	67	0 ... +60	0,015
FEG-10-HV	-890	1,50	0,42	3,30	0,92	2 ... 8	4,5	66	0 ... +60	0,026
FEG-10-HS	-650	3,78	1,05	3,30	0,92	2 ... 8	4,0	68	0 ... +60	0,026
FEG-15-HV	-880	3,12	0,87	7,08	1,97	2 ... 8	5,0	77	0 ... +60	0,026
FEG-15-HS	-610	5,40	1,50	7,08	1,97	2 ... 8	6,0	77	0 ... +60	0,026
FEG-20-HV	-920	5,88	1,63	14,1	3,92	2 ... 8	3,5	55	0 ... +60	0,185
FEG-20-HS	-920	11,3	3,14	14,1	3,92	2 ... 8	3,0	57	0 ... +60	0,185
FEG-30-HV	-930	11,2	3,11	28,8	8,0	2 ... 8	3,7	70	0 ... +60	0,185
FEG-30-HS	-830	20,3	5,64	28,8	8,0	2 ... 8	6,0	70	0 ... +60	0,185

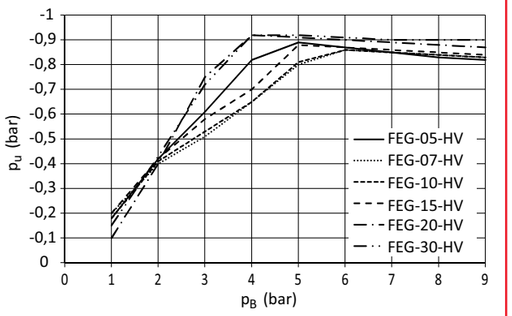
* *at optimum pressure,*
** *dry, filtered, oil-free compressed air*

Evacuation- and ventilation time (s) for 1l volume

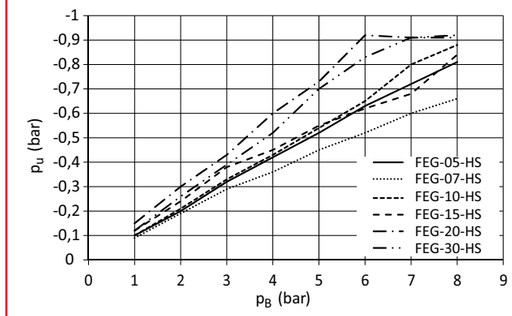
Type	Vacuum level (mbar)								Ventilation time at
	-100	-200	-300	-400	-500	-600	-700	-800	max. vacuum level
FEG-05-HV	1,1	1,5	3,0	4,3	6,0	9,0	12,5	18,4	4,8
FEG-05-HS	0,4	0,8	1,1	1,8	3,1	6,8	11,2	---	1,7
FEG-07-HV	0,8	1,0	1,5	2,2	2,9	3,4	6,1	9,2	1,9
FEG-07-HS	0,2	0,3	0,5	1,0	2,2	---	---	---	0,5
FEG-10-HV	0,3	0,5	0,7	1,0	1,4	2,0	2,9	4,7	1,1
FEG-10-HS	0,1	0,2	0,3	0,5	1,0	2,3	4,5	---	0,46
FEG-15-HV	0,1	0,2	0,3	0,45	0,6	1,0	1,8	2,7	0,5
FEG-15-HS	0,05	0,1	0,2	0,3	0,9	1,5	---	---	0,25
FEG-20-HV	0,1	0,15	0,2	0,3	0,4	0,5	0,8	1,2	0,2
FEG-20-HS	0,03	0,05	0,08	0,1	0,16	0,22	0,33	0,5	0,15
FEG-30-HV	0,05	0,1	0,15	0,25	0,3	0,35	0,4	0,5	0,1
FEG-30-HS	0,05	0,1	0,15	0,07	0,09	0,13	0,12	0,45	0,1

Ejectors

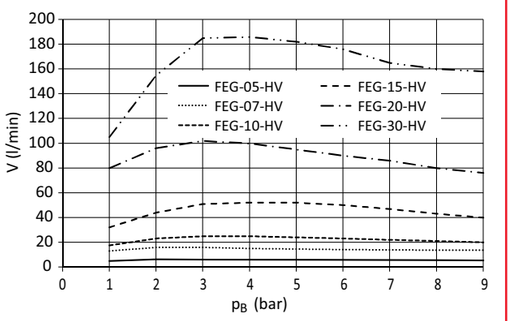
Basic ejector FEG



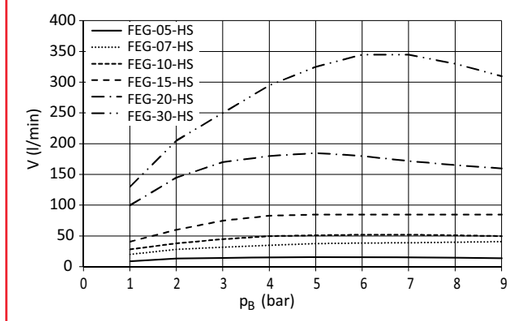
Vacuum level FEG-HV at different pressures



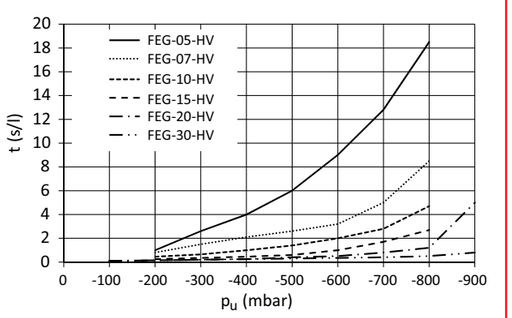
Vacuum level FEG-HS at different pressures



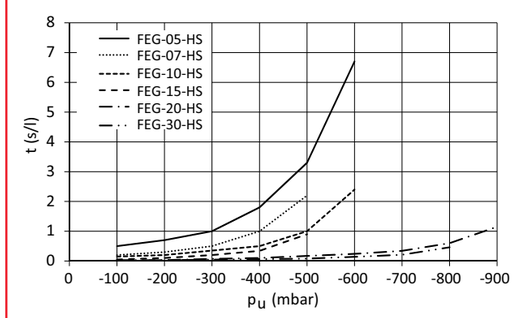
Suction volume FEG-HV at different pressures



Suction volume FEG-HS at different pressures



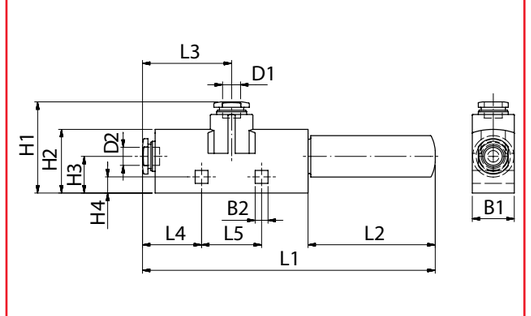
Evacuation time FEG-HV at different grades of evacuation



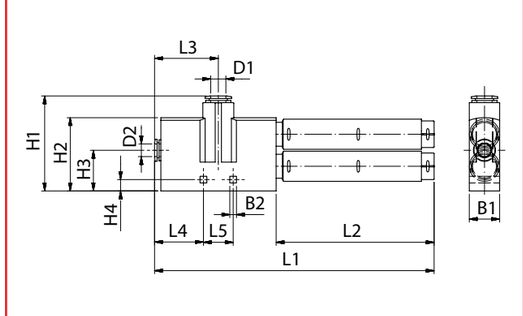
Evacuation time FEG-HS at different grades of evacuation

Ejectors

Basis ejector FEG



FEG-05-HV/HS-SA ... FEG-15-HV/HS-SA



FEG-20-HV/HS-SA ... FEG-30-HV/HS-SA

Dimensions

Type	L1	L2	L3	L4	L5	B1	B2	H1	H2	H3	H4	D1	D2
FEG-05-HV/HS-SA	97,6	42,4	29,7	19,7	20	14	4,3	30,4	21,3	12,3	5,4	6	6
FEG-07-HV/HS-SA	97,6	42,4	29,7	19,7	20	14	4,3	30,4	21,3	12,3	5,4	6	6
FEG-10-HV/HS-SA	97,6	42,4	29,7	19,7	20	14	4,3	30,4	21,3	12,3	5,4	6	6
FEG-15-HV/HS-SA	125,5	70,3	29,7	19,7	20	18	4,3	35,9	21,3	12,3	5,4	8	6
FEG-20-HV/HS-SA	221	124,9	50,4	38,6	23,5	24	5,3	75,1	57,9	32,2	9	12	10
FEG-30-HV/HS-SA	221	124,9	50,4	38,6	23,5	24	5,3	75,1	57,9	32,2	9	12	10

Ejectors

FEZER
Simply move more.

Basic ejector with integrated vacuum switch FEG-VS

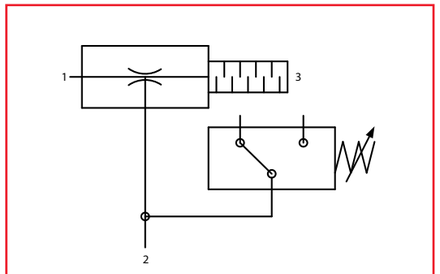
Description
Low-weight and robust basic ejector with integrated vacuum switch. The vacuum switch can pass on signals to the control and thus the suction condition of the ejector can be super-wised. The ejectors are available in 3 powers with either high grade of evacuation (HV) or high suction volume (HS) as well as vacuum switches with fixed or variable hysteresis. Teach-in switches for threshold and hysteresis. With plug-in connection.

Application
- use in automation and robot operations
- simple connection to electrical controls
- in connection with separate pneumatic valves or valve islands
- any mounting position

FEG-VS-05 ... FEG-VS-10

Article number

Type	Vacuum switch -V1 fixed hysteresis	Vacuum switch -V2 variable hysteresis
FEG-VS-05-HV- ...	1.44.1.0049	1.44.1.0060
FEG-VS-05-HS- ...	1.44.1.0093	1.44.1.0050
FEG-VS-07-HV- ...	1.44.1.0094	1.44.1.0051
FEG-VS-07-HS- ...	1.44.1.0052	1.44.1.0095
FEG-VS-10-HV- ...	1.44.1.0053	1.44.1.0096
FEG-VS-10-HS- ...	1.44.1.0054	1.44.1.0097



Schaltbild FEG-VS

1 Compressed air connection
2 Vacuum connection
3 Exhaust

Ejectors

FEZER
Simply move more.

Basic ejector with integrated vacuum switch FEG-VS

Technical data

Type	Vacuum* (mbar)	Suction volume* (m^3/h)	Suction volume* (l/s)	Air consumption* (m^3/h)	Air consumption* (l/s)	Pressure** (bar) max.	Pressure** (bar) opt.	Noise level* dB (A)	Temp. (°C)	Weight (kg)
FEG-VS-05-HV	-920	0,43	0,12	0,60	0,17	2 ... 8	4,9	50	0 ... +60	0,035
FEG-VS-05-HS	-620	0,84	0,23	0,66	0,17	2 ... 8	5,0	52	0 ... +60	0,035
FEG-VS-07-HV	-920	0,96	0,27	1,44	0,40	2 ... 8	4,4	56	0 ... +60	0,035
FEG-VS-07-HS	-650	1,86	0,52	1,32	0,37	2 ... 8	4,0	62	0 ... +60	0,035
FEG-VS-10-HV	-930	1,32	0,37	2,10	0,58	2 ... 8	3,5	62	0 ... +60	0,043
FEG-VS-10-HS	-610	2,52	0,70	2,76	0,77	2 ... 8	5,0	71	0 ... +60	0,043

* *at optimum pressure,*
** *dry, filtered, oil-free compressed air*

Technical data vacuum switch

Operating voltages:	(V DC)	15 ... 30	Electrical connection:	M8x1, 3-cores
Voltage drop:	(V)	< 1,5	Switching exit:	PNP
max. output current:	(mA)	100	Switch element function:	closer
Residual current:	(mA)	< 0,3	Switching function:	threshold with fixed hysteresis, 2 teach points
Opening/closing time:	(ms)	< 4		threshold with variable hysteresis
Setting range threshold	(bar)	-1 ... 0	Switch cond. display:	LED
Switching exactness	% FS*	1,5	Polarity security:	for all electrical connections
Hysteresis	% FS*	2 at fester Hysteresis	Overload firmness:	existing
Temperature coefficient	%/K)	0,05	Safety grade:	IP 40

** % FS = % of the measure range's final value*

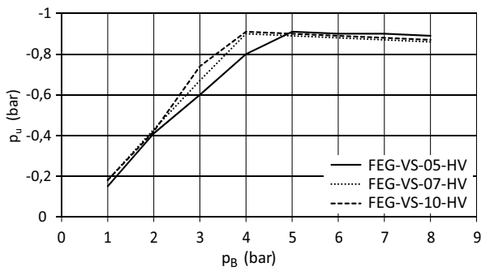
Evacuation and ventilation time (s) for 1l volume

Type	Vacuum level (mbar) -100	-200	-300	-400	-500	-600	-700	-800	Ventilation time at max. vacuum level
FEG-VS-05-HV	1,0	2,0	3,0	4,8	6,1	8,2	12,0	20	5,6
FEG-VS-05-HS	0,4	0,9	1,4	2,2	3,0	4,6	12,8	---	1,9
FEG-VS-07-HV	0,8	1,0	1,3	2,0	2,5	3,5	4,5	7,0	2,2
FEG-VS-07-HS	0,3	0,7	1,1	1,3	1,6	2,2	3,5	---	0,6
FEG-VS-10-HV	0,5	0,7	0,9	1,1	1,4	2,1	2,9	4,0	1,4
FEG-VS-10-HS	0,1	0,2	0,4	0,8	1,2	1,6	3,0	---	0,4

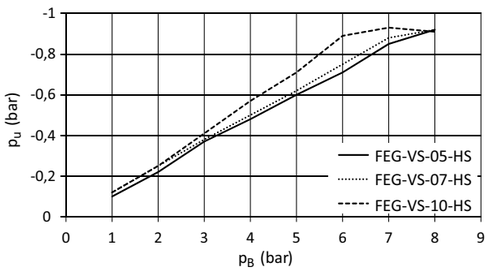
Ejectors

FEZER
Simply move more.

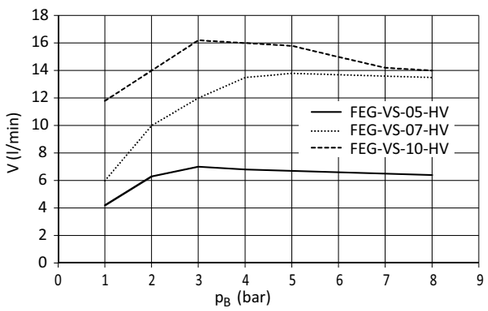
Basic ejector with integrated vacuum switch FEG-VS



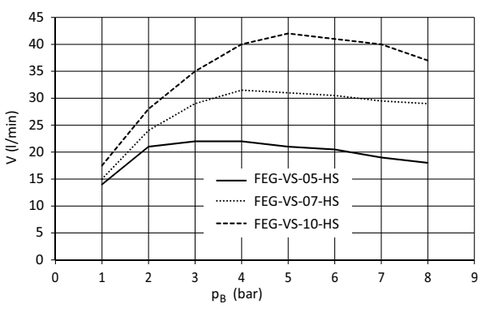
Vacuum level FEG-VS-HV at different pressures



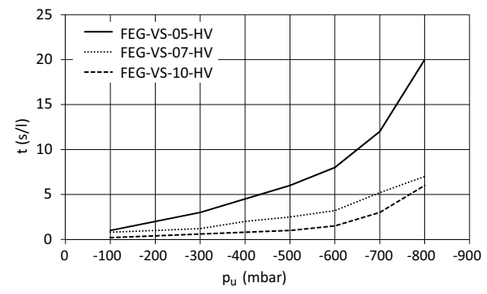
Vacuum level FEG-VS-HS at different pressures



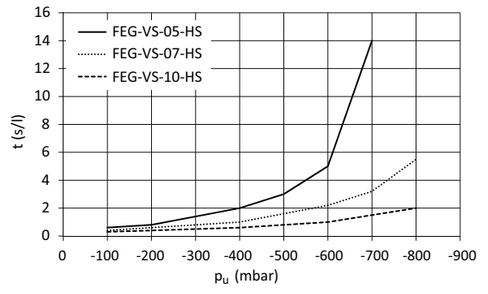
Suction volume FEG-VS-HV at different pressures



Suction volume FEG-VS-HS at different pressures



Evacuation time FEG-VS-HV at different grades of evacuation



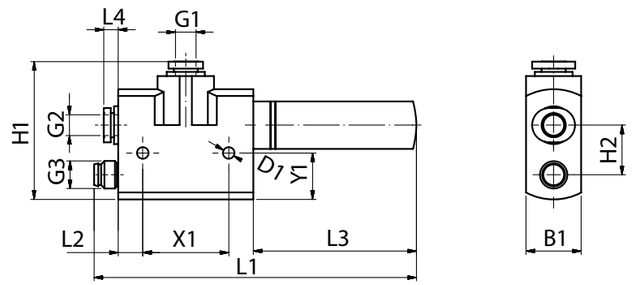
Evacuation time FEG-VS-HS at different grades of evacuation

1. Basics
2. Suction Pads
3. Mounting Elements
4. Vacuum Generators
5. Valve Technology
6. Vakcuum Supervision
7. Filter Elements
8. Connection Elements
9. System Technology

Ejectors

FEZER
Simply move more.

Basic ejector with integrated vacuum switch FEG-VS



FEG-VS-05 ... FEG-VS-10

Dimensions

Type	L1	L2	L3	L4	B1	H1	H2	D1	X1	Y1	G1	G2	G3
FEG-VS-05-HV/HS	93,6	6,5	49,4	4,2	16	40	14,4	3,4	25	13,5	6	6	M8x1-3P
FEG-VS-07-HV/HS	107	6,5	46,5	4,2	16	40	14,4	3,4	25	13,5	6	6	M8x1-3P
FEG-VS-10-HV/HS	107	6,5	46,5	4,2	16	40	14,4	3,4	25	13,5	6	6	M8x1-3P

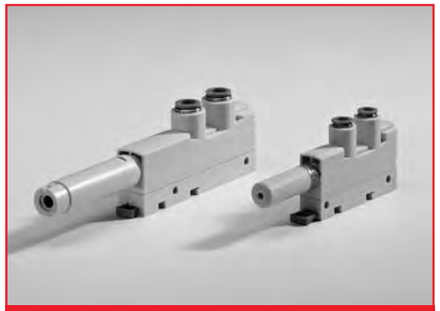
Ejectors

Basic ejector with integrated blow-off impulse FEG-AI

FEZER
Simply move more.

Description
Low-weight basic ejector in stable plastic housing with integrated blow-off impulse. When the compressed air feed stops an integrated safety tank supplies a brief blow-off impulse, which releases engaged workpieces quickly. There are 4 powers available with either high grade of evacuation (HV) or high suction volume (HS). With plug-connection. The ejectors can be either screwed in or fastened to flat bars.

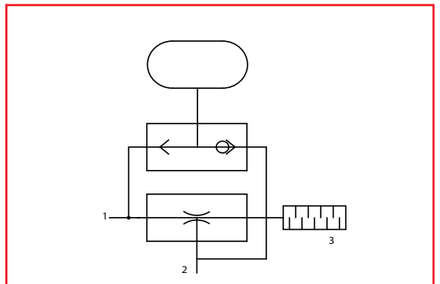
Application
- handling tasks with high dynamic requirements and short cycle times
- control of different suction circuits
- in connection with separate pneumatic valves or valve islands
- any mounting position



FEG-AI-05 ... FEG-AI-30

Article number

Type	
FEG-AI-05-HV	1.44.1.0055
FEG-AI-05-HS	1.44.1.0069
FEG-AI-07-HV	1.44.1.0072
FEG-AI-07-HS	1.44.1.0073
FEG-AI-10-HV	1.44.1.0075
FEG-AI-10-HS	1.44.1.0077
FEG-AI-15-HV	1.44.1.0079
FEG-AI-15-HS	1.44.1.0081



Schaltbild FEG-VS

1 Compressed air connection
2 Vacuum connection
3 Exhaust

Ejectors
Basic ejector with integrated blow-off impulse FEG-AI
FEZER
Simply move more.

Technical data

Type	Vacuum* (mbar)	Suction volume* (m^3/h)	(l/s)	Air consumption* (m^3/h)	(l/s)	Pressure** (bar) max.	opt.	Noise level* dB (A)	Temp. (°C)	Weight (kg)
FEG-AI-05-HV	-920	0,43	0,12	0,54	0,15	2 ... 8	4	49	0 ... +60	0,060
FEG-AI-05-HS	-800	0,82	0,23	1,01	0,28	2 ... 8	5	50	0 ... +60	0,060
FEG-AI-07-HV	-920	0,97	0,27	1,26	0,35	2 ... 8	4	61	0 ... +60	0,065
FEG-AI-07-HS	-680	1,85	0,52	1,50	0,42	2 ... 8	5	62	0 ... +60	0,065
FEG-AI-10-HV	-930	1,31	0,36	2,28	0,63	2 ... 8	4	65	0 ... +60	0,090
FEG-AI-10-HS	-700	2,43	0,68	2,76	0,77	2 ... 8	5	68	0 ... +60	0,090
FEG-AI-15-HV	-920	2,93	0,81	4,92	1,37	2 ... 8	4	65	0 ... +60	0,100
FEG-AI-15-HS	-730	5,56	1,54	6,00	1,67	2 ... 8	5	69	0 ... +60	0,100

* *at optimum pressure,*
** *dry, filtered, oil-free compressed air*

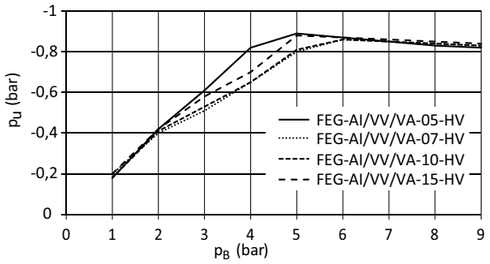
Evacuation and ventilation time (s) for 1l volume

Type	Vacuum level (mbar) -100	-200	-300	-400	-500	-600	-700	-800	Ventilation time at max. vacuum level
FEG-AI-05-HV	0,8	1,6	2,8	4,1	5,4	7,8	12,2	21,8	0,02
FEG-AI-05-HS	0,4	0,8	1,2	1,8	2,6	4,5	7,5	---	0,02
FEG-AI-07-HV	0,6	0,8	1,0	1,2	1,8	3,6	4,8	6,8	0,02
FEG-AI-07-HS	0,3	0,4	0,8	1,0	1,3	1,8	3,9	---	0,02
FEG-AI-10-HV	0,5	0,6	0,8	1,0	1,4	1,8	2,9	5,2	0,02
FEG-AI-10-HS	0,1	0,2	0,35	0,5	0,75	1,05	1,6	3,2	0,01
FEG-AI-15-HV	0,2	0,25	0,3	0,5	0,7	1,0	1,5	2,2	0,01
FEG-AI-15-HS	0,05	0,1	0,15	0,2	0,3	0,45	0,6	0,9	0,01

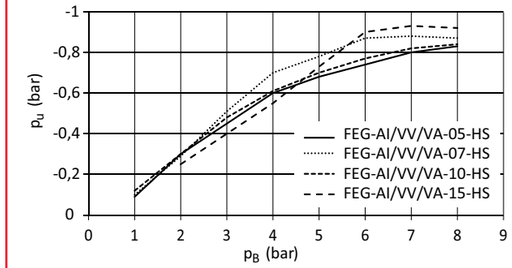
Ejectors

FEZER
Simply move more.

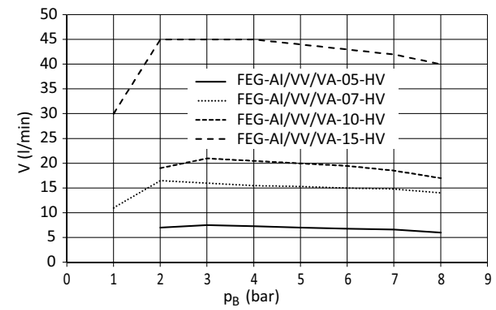
Basic ejector with integrated blow-off impulse FEG-AI



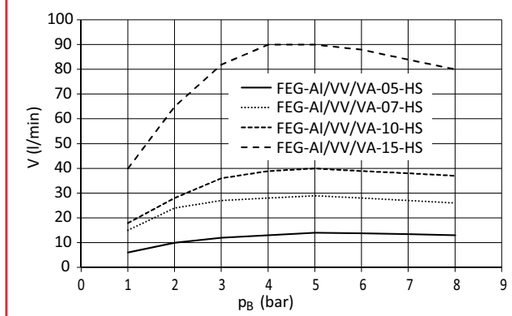
Vacuum level FEG-AI-HV at different pressures



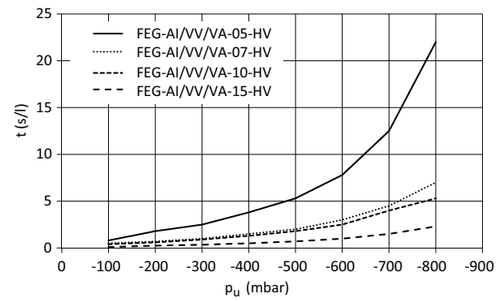
Vacuum level FEG-AI-HS at different pressures



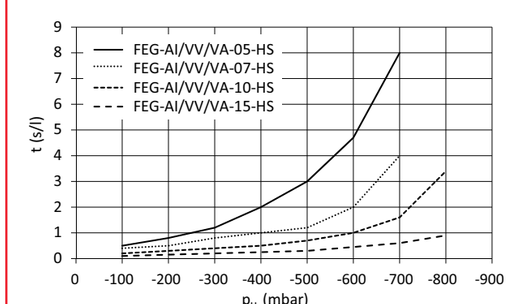
Suction volume FEG-AI-HV at different pressures



Suction volume FEG-AI-HS at different pressures



Evacuation time FEG-AI-HV at different grades of evacuation



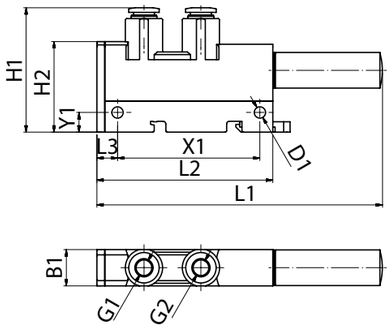
Evacuation time FEG-AI-HS at different grades of evacuation

1. Basics
2. Suction Pads
3. Mounting Elements
4. Vacuum Generators
5. Valve Technology
6. Vakcuum Supervision
7. Filter Elements
8. Connection Elements
9. System Technology

Ejectors

FEZER
Simply move more.

Basic ejector with integrated blow-off impulse FEG-AI



FEG-AI-05-GA ... FEG-AI-15-GA

Dimensions

Type	L1	L2	L3	B1	H1	H2	D1	X1	Y1	G1	G2
FEG-AI-05-HV/HS	110	68	8	14	48	35	4,4	55	7,6	6	6
FEG-AI-07-HV/HS	119	68	8	14	48	35	4,4	55	7,6	6	6
FEG-AI-10-HV/HS	119	68	8	14	48	35	4,4	55	7,6	6	6
FEG-AI-15-HV/HS	166	98	8,7	18	50	39	4,4	63	7,5	8	8

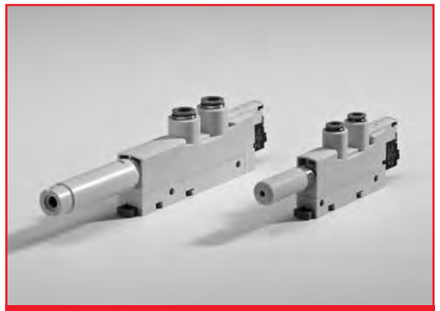
Ejectors

Basic ejector with integrated vacuum valve FEG-VV

FEZER
Simply move more.

Description

Basic ejector made of a stable plastic housing with integrated vacuum valve. The vacuum valve can directly control the ejector. When the compressed air feed stops an integrated safety tank supplies a brief blow-off impulse, which releases engaged workpieces quickly. Available in 6 powers with either high grade of evacuation (HV) or high suction volume (HS). With plug-in connections. The ejectors can be either screwed in or fastened to flat bars.



FEG-VV-05 ... FEG-VV-30

Application

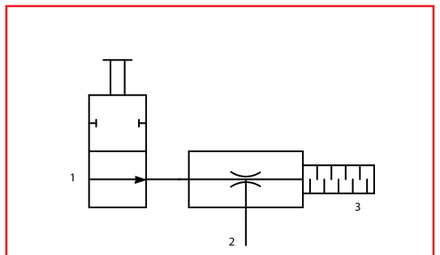
- Applications with highly dynamic requirements
- direct control of suction pads by ejector
- any mounting position

Article number

Type	
FEG-VV-05-HV	1.44.1.0082
FEG-VV-05-HS	1.44.1.0083
FEG-VV-07-HV	1.44.1.0084
FEG-VV-07-HS	1.44.1.0085
FEG-VV-10-HV	1.44.1.0086
FEG-VV-10-HS	1.44.1.0087
FEG-VV-15-HV	1.44.1.0088
FEG-VV-15-HS	1.44.1.0089
FEG-VV-20-HV	1.44.1.0090
FEG-VV-30-HV	1.44.1.0091

Electrical data of solenoid valve

Operating voltage range:	(V DC)	21,6 ... 26,4
Switch-on time:	(%)	100
Safety class		IP40
Valve function:		2/2-ways valve
Supplementary hand operation		push-button
Electrical connection		plug



Schaltbild FEG-VS

1 Compressed air connection
2 Vacuum connection
3 Exhaust

Ejectors
Basic ejector with integrated vacuum valve FEG-VV
FEZER
Simply move more.

Technical data

Type	Vacuum*	Suction volume*		Air consumption*		Pressure** (bar)		Noise level*	Temp.	Weight
	(mbar)	(m^3/h)	(l/s)	(m^3/h)	(l/s)	max.	opt.	dB (A)	(°C)	(kg)
FEG-VV-05-HV	-920	0,43	0,12	0,54	0,15	2 ... 8	4	49	0 ... +60	0,060
FEG-VV-05-HS	-800	0,82	0,23	0,60	0,17	2 ... 8	5	50	0 ... +60	0,060
FEG-VV-07-HV	-920	0,97	0,27	1,26	0,35	2 ... 8	4	61	0 ... +60	0,065
FEG-VV-07-HS	-680	1,85	0,52	1,50	0,42	2 ... 8	5	62	0 ... +60	0,065
FEG-VV-10-HV	-930	1,31	0,36	2,28	0,63	2 ... 8	4	65	0 ... +60	0,090
FEG-VV-10-HS	-700	2,43	0,68	2,76	0,77	2 ... 8	5	68	0 ... +60	0,090
FEG-VV-15-HV	-920	2,93	0,81	4,92	1,37	2 ... 8	4	65	0 ... +60	0,100
FEG-VV-15-HS	-730	5,56	1,54	6,00	1,67	2 ... 8	5	69	0 ... +60	0,100
FEG-VV-20-HV	-900	5,88	1,63	14,10	3,92	2 ... 8	4	73	0 ... +60	0,220
FEG-VV-30-HV	-910	11,16	3,10	28,80	8,00	2 ... 8	4	76	0 ... +60	0,225

* *at optimum pressure,*
** *dry, filtered, oil-free compressed air*

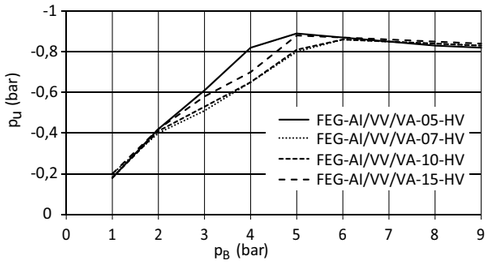
Evacuation and ventilation time (s) for 1l volume

Type	Vacuum level (mbar)								Ventilation time at
	-100	-200	-300	-400	-500	-600	-700	-800	max. vacuum level
FEG-05-HV	0,8	1,6	2,8	4,1	5,4	7,8	12,2	21,8	0,12
FEG-05-HS	0,4	0,8	1,2	1,8	2,6	4,5	7,5	---	0,07
FEG-07-HV	0,6	0,8	1,0	1,2	1,8	3,6	4,8	6,8	0,09
FEG-07-HS	0,3	0,4	0,8	1,0	1,3	1,8	3,9	---	0,06
FEG-10-HV	0,5	0,6	0,8	1,0	1,4	1,8	2,9	5,2	0,06
FEG-10-HS	0,1	0,2	0,35	0,5	0,75	1,05	1,6	---	0,05
FEG-15-HV	0,2	0,25	0,3	0,5	0,7	1,0	1,5	2,2	0,05
FEG-15-HS	0,05	0,1	0,15	0,2	0,3	0,45	0,6	---	0,04
FEG-20-HV	0,05	0,1	0,15	0,25	0,35	0,5	0,7	1,0	0,04
FEG-30-HV	0,05	0,06	0,08	0,1	0,2	0,3	0,4	0,55	0,03

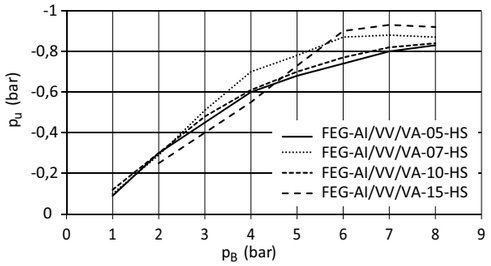
Ejectors

FEZER
Simply move more.

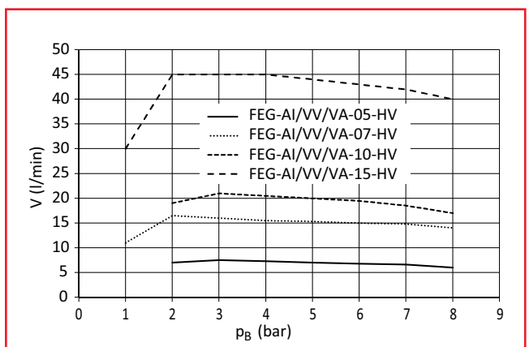
Basic ejector with integrated vacuum valve FEG-VV



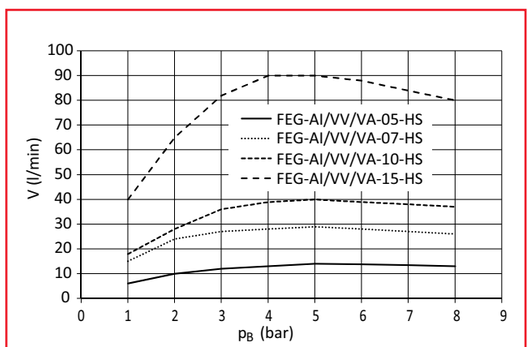
Vacuum level FEG-VV-HV at different pressures



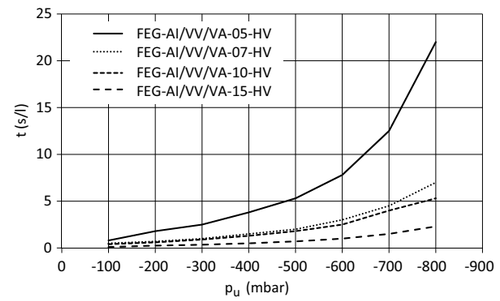
Vacuum level FEG-VV-HS at different pressures



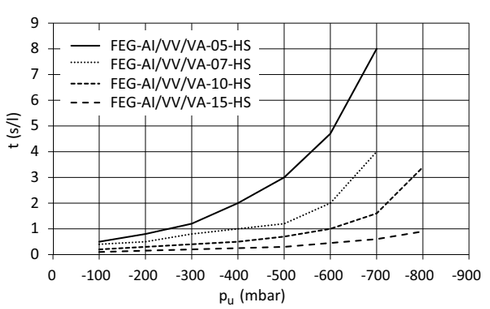
Suction volume FEG-VV-HV at different pressures



Suction volume FEG-VV-HS at different pressures



Evacuation time FEG-VV-HV at different grades of evacuation

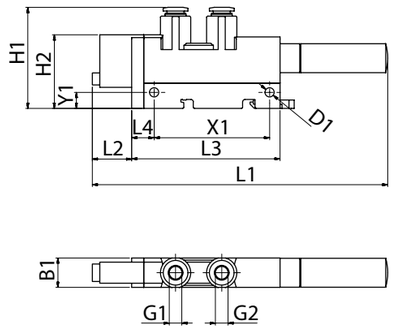


Evacuation time FEG-VV-HS at different grades of evacuation

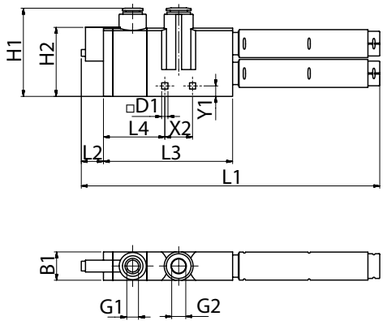
Ejectors

FEZER
Simply move more.

Basic ejector with integrated vacuum valve FEG-VV



FEG-VV-05- ... FEG-VV-15-



FEG-VV-20- ... FEG-VV-30-

Dimensions

Type	L1	L2	L3	L4	B1	H1	H2	D1	X1	Y1	G1	G2
FEG-VV-05-HV/HS	110	14	68	8	14	48	32,5	4,4	55	7,6	6	6
FEG-VV-07-HV/HS	119	14	68	8	14	48	32,5	4,4	55	7,6	6	6
FEG-VV-10-HV/HS	119	14	68	8	14	48	32,5	4,4	55	7,6	6	6
FEG-VV-15-HV/HS	166	15	98	8,7	18	50	34	4,4	63	4,5	8	8
FEG-VV-20-HV	253	18,5	110	52	24	75	60	5,3	23,5	9	10	12
FEG-VV-30-HV	253	18,5	110	52	24	75	60	5,3	23,5	9	10	12

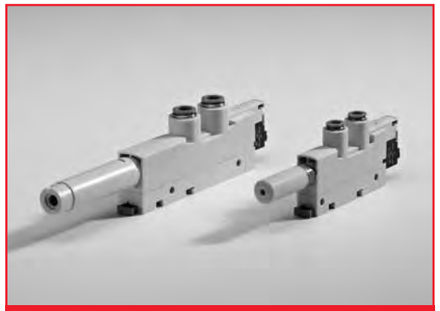
Ejectors

FEZER
Simply move more.

Basic ejector with vac.valve and blow-off impulse FEG-VA

Description

Basic ejector made of stable plastic housing with integrated vacuum valve and blow-off impulse. The vacuum valve can directly control the ejector.
When the compressed air feed stops an integrated safety tank supplies a brief blow-off impulse, which releases engaged workpieces quickly. There are 4 powers available with either high grade of evacuation (HV) or high suction volume (HS).
With plug connection. The ejectors can be either screwed in or fastened to flat bars.



FEG-VV-05 ... FEG-VV-30

Application

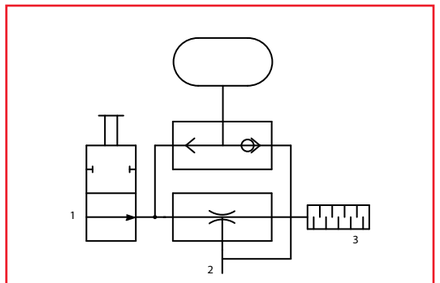
- Applications with highly dynamic requirements and short cycle times
- direct control of suction pads with ejector
- any mounting position

Article number

Type	
FEG-VA-05-HV	1.44.1.0062
FEG-VA-05-HS	1.44.1.0063
FEG-VA-07-HV	1.44.1.0098
FEG-VA-07-HS	1.44.1.0099
FEG-VA-10-HV	1.44.1.0100
FEG-VA-10-HS	1.44.1.0101
FEG-VA-15-HV	1.44.1.0102
FEG-VA-15-HS	1.44.1.0103

Electrical data solenoid valve

Operating voltage range:	(V DC)	21,6 ... 26,4
Switch-on time:	(%)	100
Safety class:		IP40
Valve function:		2/2-ways valve
Supplementary hand operation		push-buttons
Electrical connection:		plug



Schaltbild FEG-VS

1 Compressed air connection
2 Vacuum connection
3 Exhaust

Ejectors

FEZER
Simply move more.

Basic ejector with vac. valve and blow-off impulse FEG-VA

Technical data

Type	Vacuum*	Suction volume*		Air consumption*		Pressure** (bar)		Noise level*	Temperature	Weight
	(mbar)	(m^3/h)	(l/s)	(m^3/h)	(l/s)	max.	opt.	dB (A)	(°C)	(kg)
FEG-VA-05-HV	-920	0,43	0,12	0,54	0,15	2 ... 8	4	49	0 ... +60	0,060
FEG-VA-05-HS	-800	0,82	0,23	0,60	0,17	2 ... 8	5	50	0 ... +60	0,060
FEG-VA-07-HV	-920	0,97	0,27	1,26	0,35	2 ... 8	4	61	0 ... +60	0,065
FEG-VA-07-HS	-680	1,85	0,52	1,50	0,42	2 ... 8	5	62	0 ... +60	0,065
FEG-VA-10-HV	-930	1,31	0,36	2,28	0,63	2 ... 8	4	65	0 ... +60	0,090
FEG-VA-10-HS	-700	2,43	0,68	2,76	0,77	2 ... 8	5	68	0 ... +60	0,090
FEG-VA-15-HV	-920	2,93	0,81	4,92	1,37	2 ... 8	4	65	0 ... +60	0,100
FEG-VA-15-HS	-730	5,56	1,54	6,00	1,67	2 ... 8	5	69	0 ... +60	0,100

* *at optimum pressure,*
** *dry, filtered, oil-free compressed air*

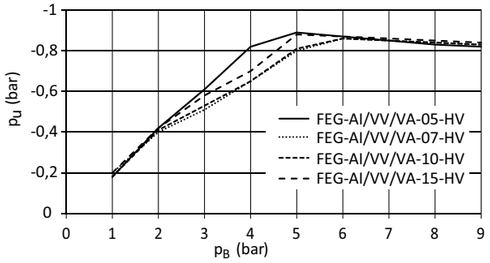
Evacuation and ventilation time (s) for 1l volume

Type	Vacuum level (mbar)								Ventilation time at
	-100	-200	-300	-400	-500	-600	-700	-800	max. vacuum level
FEG-VA-05-HV	0,8	1,6	2,8	4,1	5,4	7,8	12,2	21,8	0,04
FEG-VA-05-HS	0,4	0,8	1,2	1,8	2,6	4,5	7,5	---	0,04
FEG-VA-07-HV	0,6	0,8	1,0	1,2	1,8	3,6	4,8	6,8	0,03
FEG-VA-07-HS	0,3	0,4	0,8	1,0	1,3	1,8	3,9	---	0,03
FEG-VA-10-HV	0,5	0,6	0,8	1,0	1,4	1,8	2,9	5,2	0,03
FEG-VA-10-HS	0,1	0,2	0,35	0,5	0,75	1,05	1,6	---	0,03
FEG-VA-15-HV	0,2	0,25	0,3	0,5	0,7	1,0	1,5	2,2	0,03
FEG-VA-15-HS	0,05	0,1	0,15	0,2	0,3	0,45	0,6	0,9	0,03

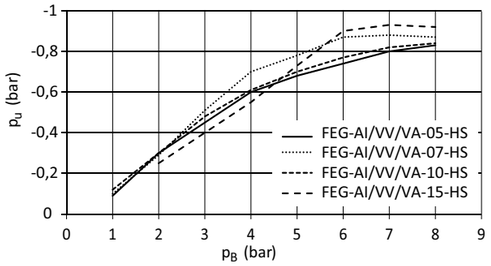
Ejectors

FEZER
Simply move more.

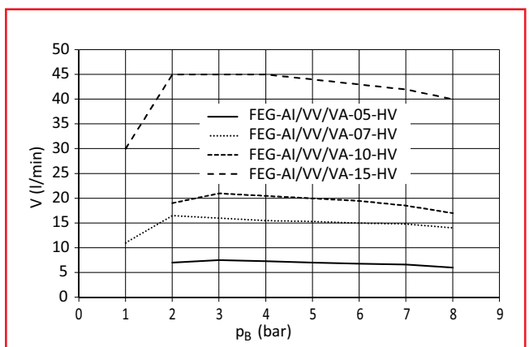
Basic ejector with vac. valve and blow-off impulse FEG-VA



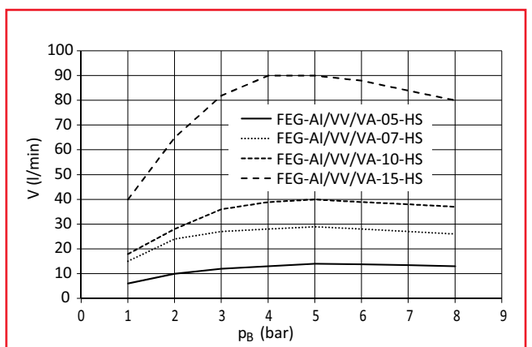
Vacuum level FEG-VA-HV at different pressures



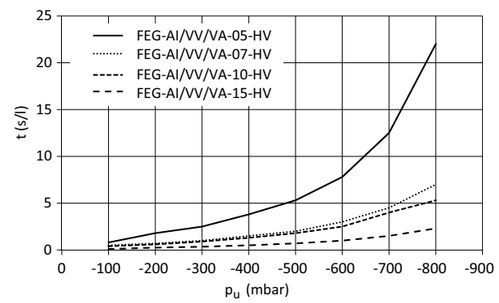
Vacuum level FEG-VA-HS at different pressures



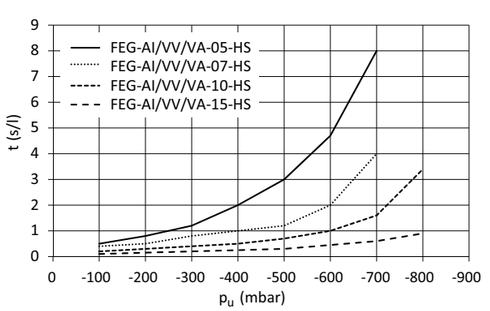
Suction volume FEG-VA-HV at different pressures



Suction volume FEG-VA-HS at different pressures



Evacuation time FEG-VA-HV at different grades of evacuation



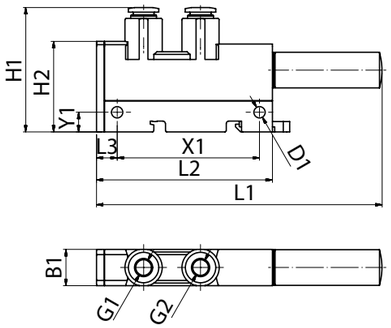
Evacuation time FEG-VA-HS at different grades of evacuation

1. Basics
2. Suction Pads
3. Mounting Elements
4. Vacuum Generators
5. Valve Technology
6. Vakcuum Supervision
7. Filter Elements
8. Connection Elements
9. System Technology

Ejectors

FEZER
Simply move more.

Basic ejector with vac. valve and blow-off impulse FEG-VA



FEG-AI-05-GA ... FEG-AI-15-GA

Dimensions

Type	L1	L2	L3	B1	H1	H2	D1	X1	Y1	G1	G2
FEG-VA-05-HV/HS	110	68	8	14	48	35	4,4	55	7,6	6	6
FEG-VA-07-HV/HS	119	68	8	14	48	35	4,4	55	7,6	6	6
FEG-VA-10-HV/HS	119	68	8	14	48	35	4,4	55	7,6	6	6
FEG-VA-15-HV/HS	166	98	8,7	18	50	39	4,4	63	7,5	8	8

Ejectors

Compakt ejector FEK-VE

FEZER
Simply move more.

Description
Compact ejector with integrated vacuum and blow-off valve, exchangeable vacuum filter and a vacuum sensor with LED display to superwise the underpressure and display the condition of switching exit and solenoid valves. Theree are 4 powers available with high grade of evacuation (HV) or high suction volume (HS).

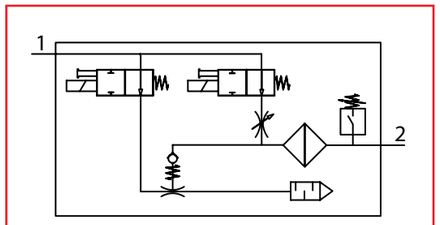
Vacuum valve
The compressed air supply is controlled by solenoid valve. This valve is available with functions NC/NO. Control via switching entrance of a higher system.
- NC - Vacuum is generated with active voltage
- NO - Vacuum is generated with inactive voltage

Blow-off impulse
A second integrated solenoid valve opens the blow-off impulse whose intensity is adjustable. Control via switching entrance of a higher system.

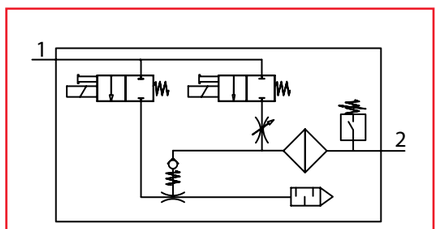
Vacuum sensor
The integrated vacuum sensor possesses a digital switching exit, configurated as a closer. The switching function is configured as a threshold comparator. The switching point is set at teach funkcion minus a reserve of 35%. The hysteresis to the switching point has a fixed value of 20 mbar.
- SP = TP - 35% * TP

Air saving automatic
A higher control can also establish an air saving automatic in the range of the reserve. If the vacuum exceeds the swtiching point it can be shut off. On again reaching the switching point the vacuum valve is re-activated and vacuum is again created.

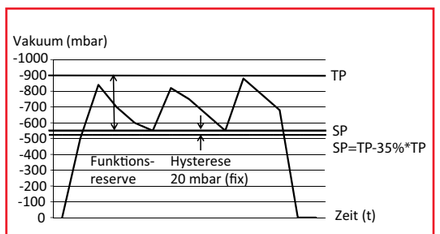
FEK-VE-05 ... FEK-VE-15



Switching diagram FEK-VE-05 ... FEK-VE-15-NO



Switching diagram FEK-VE-05 ... FEK-VE-15-NC



Principle of external air saving automatic

Ejectors

Compact ejector FEK-VE

FEZER
Simply move more.

Article number

Type	High vacuum HV	High suction volume HS
FEK-VE-05- ... -NO-1P	1.44.3.0063	1.44.3.0036
FEK-VE-05- ... -NO-1N	1.44.3.0064	1.44.3.0035
FEK-VE-05- ... -NC-1P	1.44.3.0050	1.44.3.0034
FEK-VE-05- ... -NC-1N	1.44.3.0049	1.44.3.0033
FEK-VE-07- ... -NO-1P	1.44.3.0054	1.44.3.0040
FEK-VE-07- ... -NO-1N	1.44.3.0053	1.44.3.0039
FEK-VE-07- ... -NC-1P	1.44.3.0052	1.44.3.0038
FEK-VE-07- ... -NC-1N	1.44.3.0051	1.44.3.0037
FEK-VE-10- ... -NO-1P	1.44.3.0058	1.44.3.0044
FEK-VE-10- ... -NO-1N	1.44.3.0057	1.44.3.0043
FEK-VE-10- ... -NC-1P	1.44.3.0056	1.44.3.0042
FEK-VE-10- ... -NC-1N	1.44.3.0055	1.44.3.0041
FEK-VE-15- ... -NO-1P	1.44.3.0062	1.44.3.0048
FEK-VE-15- ... -NO-1N	1.44.3.0061	1.44.3.0047
FEK-VE-15- ... -NC-1P	1.44.3.0060	1.44.3.0046
FEK-VE-15- ... -NC-1N	1.44.3.0059	1.44.3.0045

Technical data

Type	Vacuum* (mbar)	Suction volume* (m³/h)	Suction volume* (l/s)	Air consumption* (m³/h)	Air consumption* (l/s)	Pressure** (bar) max.	Pressure** (bar) opt.	Noise level* dB (A)	Temp. (°C)	Weight (kg)
FEK-VE-05-HV ...	-930	0,36	0,10	0,47	0,13	2 ... 8	5,1	51	0 ... +50	0,365
FEK-VE-05-HS ...	-620	0,78	0,22	0,58	0,16	2 ... 8	6,0	45	0 ... +50	0,365
FEK-VE-07-HV ...	-930	0,96	0,27	1,26	0,35	2 ... 8	4,1	58	0 ... +50	0,365
FEK-VE-07-HS ...	-750	1,89	0,53	1,73	0,48	2 ... 8	6,0	53	0 ... +50	0,365
FEK-VE-10-HV ...	-930	1,12	0,31	2,19	0,61	2 ... 8	3,5	73	0 ... +50	0,370
FEK-VE-10-HS ...	-880	2,70	0,75	3,17	0,88	2 ... 8	6,0	64	0 ... +50	0,370
FEK-VE-15-HV ...	-930	3,03	0,84	4,57	1,27	2 ... 8	3,6	77	0 ... +50	0,370
FEK-VE-15-HS ...	-900	5,32	1,48	6,91	1,92	2 ... 8	6,0	70	0 ... +50	0,370

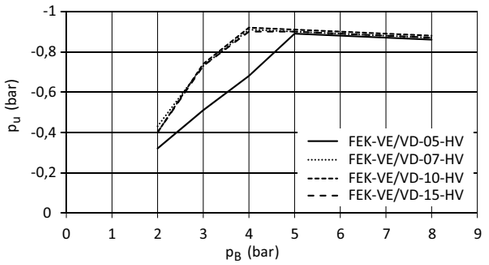
* *at optimum pressure*
** *dry, filtered, oil-free compressed air*

Technical data vacuum sensor VE

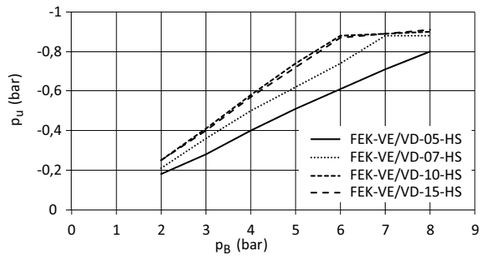
Operating voltage range:	(V DC)	20,4 ... 27,6	Electrical connection:	M12x1, 5-polig
max. exit current:	(mA)	100	Switching exit:	1xPNP, 1xNPN
residual current:	(mA)	< 0,1	Switch element function:	closer
Switching time on/off:	(ms)	< 4	Switching function:	threshold comparator
Threshold range	(bar)	-1 ... 0	Switching cond. display:	optical
Hysteresis range	(bar)	fest, 20 mbar	Display type:	LED
Switching precision	% FS*	1,5	Pole safety:	for all electrical connections
Repeat precision:	% FS*	0,6	Safety type:	IP 65

Ejectors

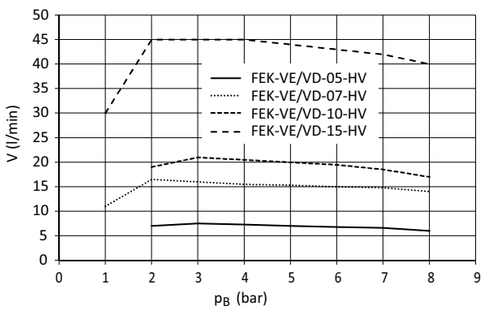
Compact ejector FEK-VE



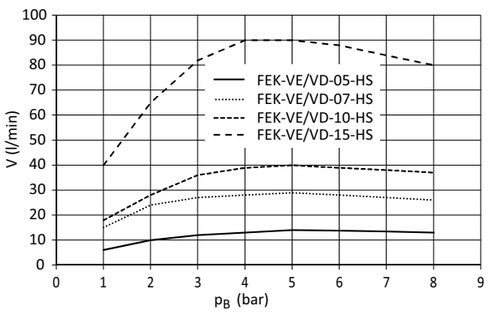
Vacuum level FEK-VE-HV at different pressures



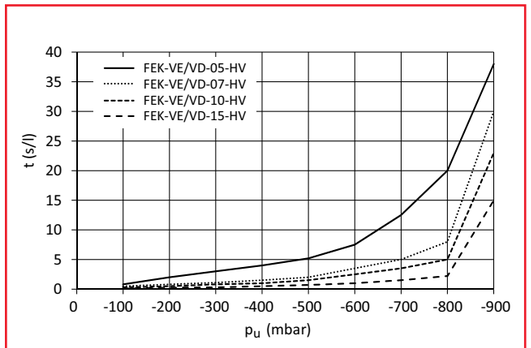
Vacuum level FEK-VE-HS at different pressures



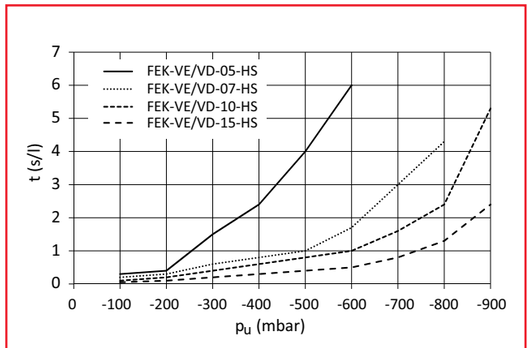
Suction volume FEK-VE-HV at different pressures



Suction volume FEK-VE-HS at different pressures



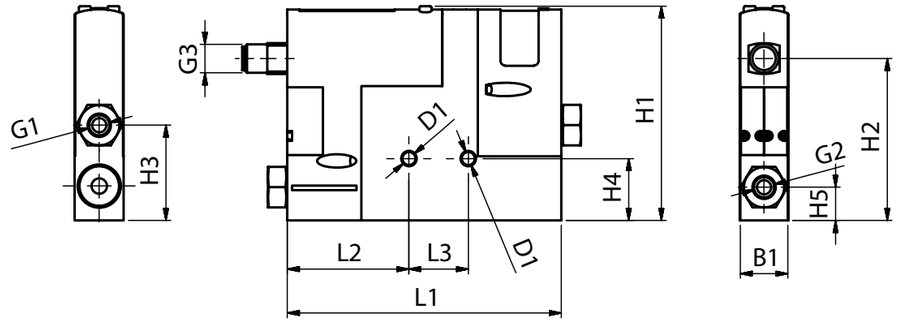
Evacuation time FEK-VE-HV at different grades of evacuation



Evacuation time FEK-VE-HS at different grades of evacuation

Ejectors

Compact ejector FEK-VE



FEK-05 ... FEK-15

Dimensions

Type	L1	L2	L3	B1	H1	H2	H3	H4	H5	D1	G1	G2	G3
FEK-VE-05- ...	115	51	25	20,5	90	68	40	26	14,5	5,5	6	6	M12x1
FEK-VE-07- ...	161	51	25	20,5	90	68	40	26	14,5	5,5	8	8	M12x1
FEK-VE-10- ...	161	51	25	20,5	90	68	40	26	14,5	5,5	8	8	M12x1
FEK-VE-15- ...	161	57	25	20,5	90	68	40	26	14,5	5,5	8	8	M12x1

Evacuation and ventilation time (s) for 1l volume

Type	Vacuum level (mbar)								Ventilation time at max. vacuum level*
	-100	-200	-300	-400	-500	-600	-700	-800	
FEK-VE-05-HV	1,0	2,0	3,0	4,0	6,0	7,5	12,5	18	0,02
FEK-VE-05-HS	0,3	0,8	1,5	2,4	4,0	6,0	---	---	0,02
FEK-VE-07-HV	0,5	1,0	1,5	2,0	2,5	3,5	5,0	8,0	0,01
FEK-VE-07-HS	0,2	0,3	0,6	0,8	1,0	1,6	3,0	---	0,01
FEK-VE-10-HV	0,4	0,9	1,3	1,6	2,0	2,8	3,8	5,0	0,01
FEK-VE-10-HS	0,1	0,2	0,4	0,6	0,8	1,0	1,3	2,4	0,01
FEK-VE-15-HV	0,3	0,5	0,8	1,0	1,3	1,6	1,9	2,5	0,01
FEK-VE-15-HS	0,1	0,1	0,2	0,3	0,4	0,6	0,8	1,1	0,01

* at optimum pressure with max. blow-off impulse

Ejectors

Compact ejector FEK-VD

FEZER
Simply move more.

Description
Compact ejector with integrated vacuum- and blow-off valve, exchangeable vacuum filter and a vacuum sensor with LCD display to supervise and visualise the vacuum and to control the air saving automatic. Additionally electrical signals can be passed on to a higher control which allows a time diagnosis of the compact ejector. There are 4 powers available with high grade of evacuation (HV) or high suction volume (HS).

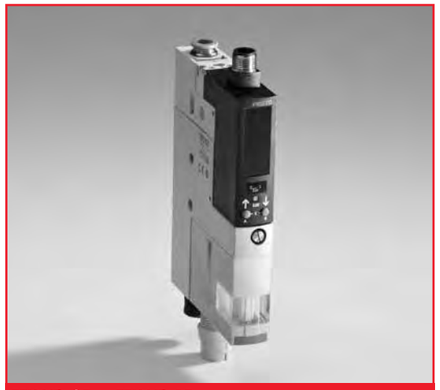
Vacuum valve
The compressed air supply is controlled by solenoid valve. This valve is avaiable as NC/NO.
- NC - vacuum generation with active voltage
- NO - vacuum generation with inactive voltage

Blow-off impulse
A second integrated valve is activated when the vacuum valve is switched off and automatically opens a blow-off impulse. This impulse is adjustable 0 ... 10s.

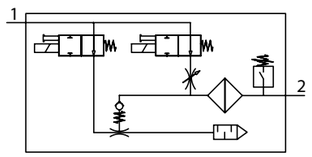
Vacuum sensor
The integrated vacuum sensor possesses two digital switching exits. These exists are available as openers or closers. Additionally the switching functions can be appointed as threshold or window comparators.

Air saving automatic
The integrated air saving automatic makes the ejector work only when required i.e. if an upper threshold value is reached the vacuum valve switches off. An integrated non-return valve prevents the reduction of the vacuum. Leakage (rough surfaces, porous materials), however, slowly decreases the vacuum until a lower threshold value is reached. The vacuum valve opens automatically and increases the vacuum back to the upper threshold value.

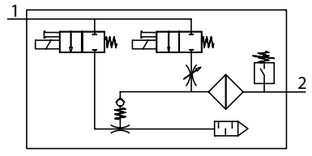
Condition monitoring and diagnosis
The most important operating parameters like vacuum, evacuation and ventilation time are constantly supervised and controlled against the set must values. Discrepancies are shown on the display and an electrical signal is submitted to the higher control.
This allows to take maintenance measures in time and keep up the operation safety.



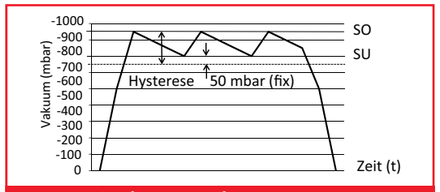
FEK-VD-05 ... FEK-VD-15



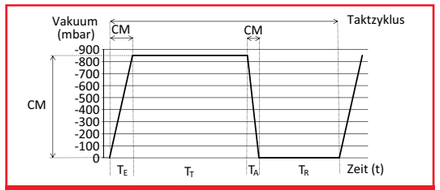
Switching diagram FEK-VD-05 ... FEK-VD-15-NO



Switching diagram FEK-VD-05 ... FEK-VD-15-NC



Function principle integrated air saving automatic



Function principle condition monotoring

Ejectors
Compact ejector FEK-VD
FEZER
Simply move more.

Article number

Type	High vacuum HV	High suction volume HS
FEK-VD-05- ... -NO-2P	1.44.3.0002	1.44.3.0001
FEK-VD-05- ... -NO-2N	1.44.3.0004	1.44.3.0003
FEK-VD-05- ... -NC-2P	1.44.3.0006	1.44.3.0005
FEK-VD-05- ... -NC-2N	1.44.3.0008	1.44.3.0007
FEK-VD-07- ... -NO-2P	1.44.3.0010	1.44.3.0009
FEK-VD-07- ... -NO-2N	1.44.3.0012	1.44.3.0011
FEK-VD-07- ... -NC-2P	1.44.3.0014	1.44.3.0013
FEK-VD-07- ... -NC-2N	1.44.3.0016	1.44.3.0015
FEK-VD-10- ... -NO-2P	1.44.3.0018	1.44.3.0017
FEK-VD-10- ... -NO-2N	1.44.3.0020	1.44.3.0019
FEK-VD-10- ... -NC-2P	1.44.3.0022	1.44.3.0021
FEK-VD-10- ... -NC-2N	1.44.3.0024	1.44.3.0023
FEK-VD-15- ... -NO-2P	1.44.3.0026	1.44.3.0025
FEK-VD-15- ... -NO-2N	1.44.3.0028	1.44.3.0027
FEK-VD-15- ... -NC-2P	1.44.3.0030	1.44.3.0029
FEK-VD-15- ... -NC-2N	1.44.3.0032	1.44.3.0031

Technical data

Type	Vacuum* (mbar)	Suction volume* (m³/h)	(l/s)	Air consumption* (m³/h)	(l/s)	Pressure** (bar) max.	opt.	Noise level* dB (A)	Temperature (°C)	Weight (kg)
FEK-VD-05-HV ...	-930	0,36	0,10	0,47	0,13	2 ... 8	5,1	51	0 ... +50	0,370
FEK-VD-05-HS ...	-620	0,78	0,22	0,58	0,16	2 ... 8	6,0	45	0 ... +50	0,370
FEK-VD-07-HV ...	-930	0,96	0,27	1,26	0,35	2 ... 8	4,1	58	0 ... +50	0,370
FEK-VD-07-HS ...	-750	1,89	0,53	1,73	0,48	2 ... 8	6,0	53	0 ... +50	0,370
FEK-VD-10-HV ...	-930	1,12	0,31	2,19	0,61	2 ... 8	3,5	73	0 ... +50	0,395
FEK-VD-10-HS ...	-880	2,70	0,75	3,17	0,88	2 ... 8	6,0	64	0 ... +50	0,395
FEK-VD-15-HV ...	-930	3,03	0,84	4,57	1,27	2 ... 8	3,6	77	0 ... +50	0,395
FEK-VD-15-HS ...	-900	5,32	1,48	6,91	1,92	2 ... 8	6,0	70	0 ... +50	0,395

* *at optimum pressure*
** *dry, filtered, oil-free compressed air*

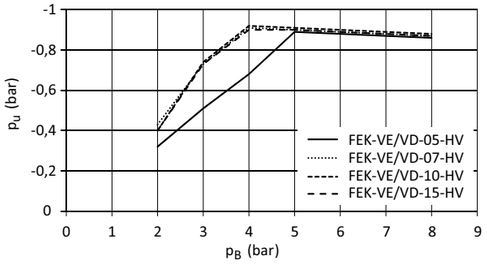
Technical data vacuum sensor VD

Operating voltage range:	(V DC)	20,4 ... 27,6	Electrical connection	M12x1, 5 cores
max. exit current:	(mA)	100	Switching exit:	2xPNP, 2xNPN
Residual current:	(mA)	< 0,1	Switch element function:	opener/closer
Switching time on/off:	(ms)	< 4	Switching function:	Window comparator
Threshold range	(bar)	-0,99 ... 0		Threshold comparator
Hysteresis range	(bar)	-0,90 ... 0	Switching condition display	optical via LCD display
Switching precision	% FS*	1,5	Display type:	4 digits, background illuminated display
Repeat precision:	% FS*	0,6	Pole safety:	for all electrical connections
Hysteresis	% FS*	2 at fixed hysteresis	Safety type	IP 65

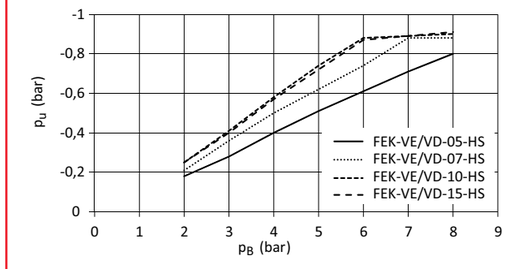
Ejectors

Kompaktejektor FEK-VD

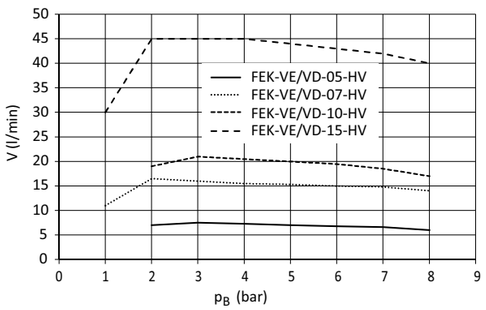
FEZER
Simply move more.



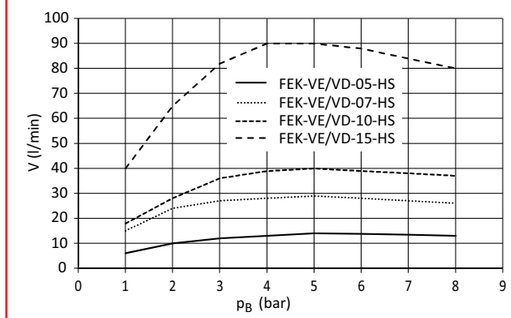
Vacuum level FEK-VD-HV at different Pressures



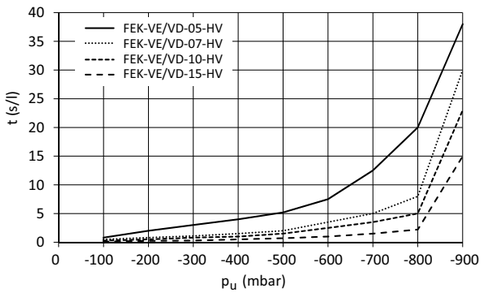
Vacuum level FEK-VD-HS at different Pressures



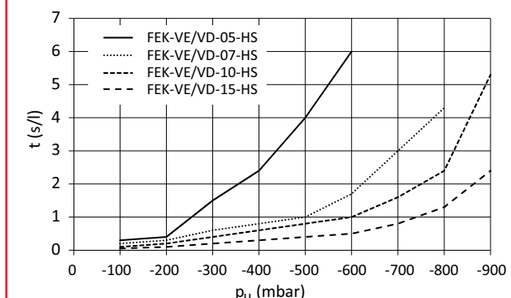
Suction volume FEK-VD-HV at different Pressures



Suction volume FEK-VD-HS at different Pressures



Evacuation time FEK-VD-HV at different Grades of evacuation

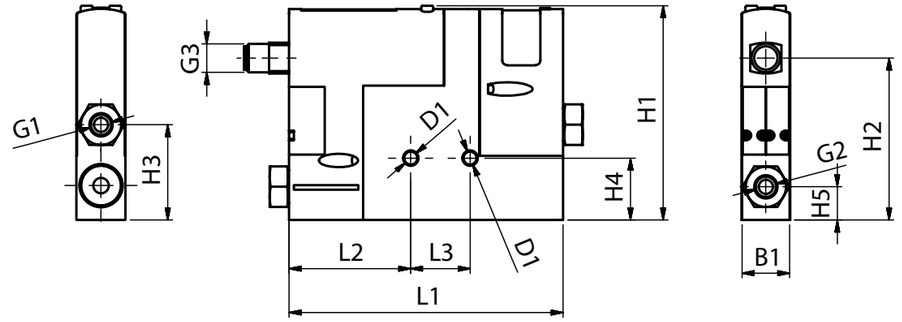


Evacuation time FEK-VD-HS at different Grades of evacuation

Ejectors

Compact ejector FEK-VD

FEZER
Simply move more.



FEK-VD-05 ... FEK-VD-15

Dimensions

Type	L1	L2	L3	B1	H1	H2	H3	H4	H5	D1	G1	G2	G3
FEK-VE-05- ...	115	51	25	20,5	90	68	40	26	14,5	5,5	6	6	M12x1
FEK-VE-07- ...	161	51	25	20,5	90	68	40	26	14,5	5,5	8	8	M12x1
FEK-VE-10- ...	161	51	25	20,5	90	68	40	26	14,5	5,5	8	8	M12x1
FEK-VE-15- ...	161	57	25	20,5	90	68	40	26	14,5	5,5	8	8	M12x1

Evacuation and ventilation time (s) for 1l volume

Type	Vacuum level (mbar)								Ventilation time at max. vacuum level*
	-100	-200	-300	-400	-500	-600	-700	-800	
FEK-VD-05-HV	1,0	2,0	3,0	4,0	6,0	7,5	12,5	18	0,02
FEK-VD-05-HS	0,3	0,8	1,5	2,4	4,0	6,0	---	---	0,02
FEK-VD-07-HV	0,5	1,0	1,5	2,0	2,5	3,5	5,0	8,0	0,01
FEK-VD-07-HS	0,2	0,3	0,6	0,8	1,0	1,6	3,0	---	0,01
FEK-VD-10-HV	0,4	0,9	1,3	1,6	2,0	2,8	3,8	5,0	0,01
FEK-VD-10-HS	0,1	0,2	0,4	0,6	0,8	1,0	1,3	2,4	0,01
FEK-VD-15-HV	0,3	0,5	0,8	1,0	1,3	1,6	1,9	2,5	0,01
FEK-VD-15-HS	0,1	0,1	0,2	0,3	0,4	0,6	0,8	1,1	0,01

* at optimum pressure with max. blow-off impulse

Ejectors

Multi-stage ejector FEM

FEZER
Simply move more.

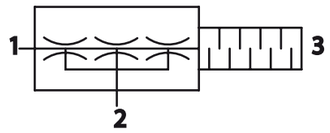
Description
Robust and powerful multi-stage ejector in modular design. Depending on the power requirements this ejector can be upgraded with up to 6 three-stage nozzles. The modular design allows to configure the ejector at any time and adjust it to altered requirements. The ejector consists of a low-weight plastic housing and is supplied with a silencer.

Application
- evacutation of large volumes
- handling of porous materials
- any mounting position

FEM-6 ... FEM-36

Article number

Type		Silencer
FEM-6	1.44.2.0011	2.44.2.0003
FEM-12	1.44.2.0012	2.44.2.0003
FEM-18	1.44.2.0013	2.44.2.0003
FEM-24	1.44.2.0014	2.44.2.0003



Switching diagram FIM

1 Compressed air connection
2 Vacuum connection
3 Exhaust

Ejectors

Multi-stage ejector FEM

FEZER
Simply move more.

Technical data

Type	Vacuum* (mbar)	Suction volume* (m³/h)	(l/s)	Air consumption* (m³/h)	(l/s)	Pressure** (bar) max.	opt.	Noise level* dB (A)	Temperature (°C)	Weight (kg)
FEM-6	-750	21,6	6	0,49	1,75	7	6	60 ... 77	-10 ... 60	0,67
FEM-12	-750	43,2	12	0,97	3,50	7	6	60 ... 77	-10 ... 60	0,72
FEM-18	-750	64,8	18	1,46	5,25	7	6	60 ... 77	-10 ... 60	0,89
FEM-24	-750	86,4	24	1,94	7,00	7	6	60 ... 77	-10 ... 60	0,94

* *at optimum pressure,*
** *dry, filtered, oil-free compressed air*

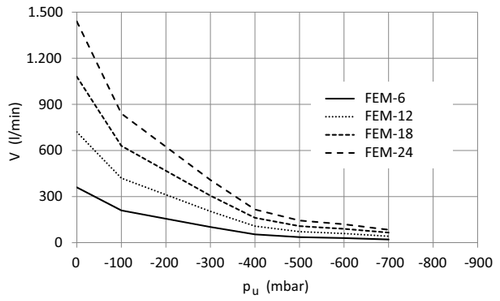
Evacuation and ventilation time (s) for 1l volume

Type	Vacuum level (mbar) -100	-200	-300	-400	-500	-600	-700	-800	Ventilation time at max. vacuum level
FEM-6	0,02	0,05	0,10	0,20	0,30	0,50	0,80	---	0,48
FEM-12	0,01	0,03	0,05	0,09	0,20	0,30	0,40	---	0,25
FEM-18	0,01	0,02	0,03	0,06	0,10	0,20	0,30	---	0,18
FEM-24	0,01	0,01	0,02	0,04	0,08	0,10	0,20	---	0,10

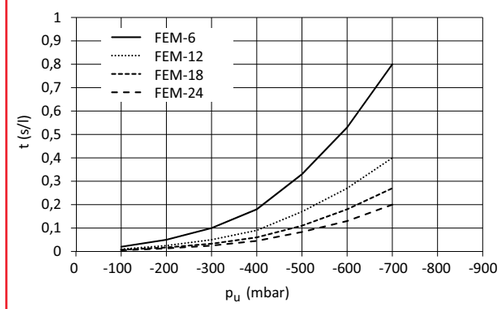
Ejectors

Multi-stage ejector FEM

FEZER
Simply move more.



Suction volume FEM- at different grades of evacuation

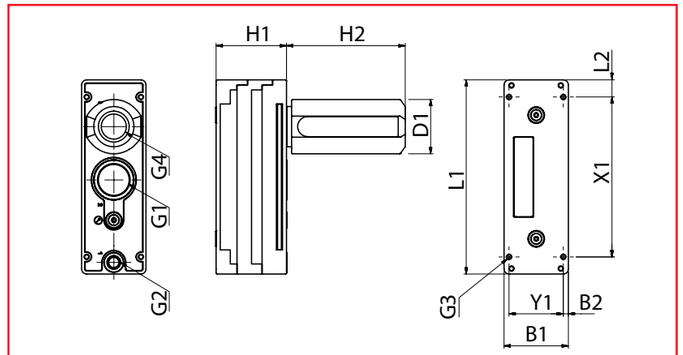


Evacuation time FEM- at different grades of evacuation

Ejectors

Multi-stage ejector FEM

FEZER
Simply move more.



FEM-6 ... FEM-24

Dimensions

Type	L1	L2	B1	B2	H1	H2	X1	Y1	G1	G2	G3	G4
FEM-6	198	17	64	5	46	118	159	49	G1/8	G3/4	4	G1
FEM-12	198	17	64	5	46	118	159	49	G1/8	G3/4	4	G1
FEM-18	198	17	64	5	70	118	159	49	G1/8	G3/4	4	G1
FEM-24	198	17	64	5	70	118	159	49	G1/8	G3/4	4	G1

FEZER
Simply move more.

Ejectors

Multi-stage ejector with air saving automatic FEMR

Description

Robust and powerful multi-stage ejector in modular design. Depending on the power requirements this ejector can be upgraded with up to 6 three-stage nozzles. The modular design allows to configure the ejector at any time and adjust it to altered requirements. By the integrated air saving automatic the ejector regulates automatically the creation of the vacuum which decreases the compressed air consumption considerably. The ejector consists of a low-weight plastic housing and is supplied with a silencer.

FEMR-6 ... FEMR-36

Application

- evacuation of large volumes
- handling of porous materials
- any mounting position

Article number

Type		Silencer
FEMR-6	1.44.2.0019	2.44.2.0003
FEMR-12	1.44.2.0020	2.44.2.0003
FEMR-18	1.44.2.0021	2.44.2.0003
FEMR-24	1.44.2.0022	2.44.2.0003

Switching diagram FIM

1 Compressed air connection
2 Vacuum connection
3 Exhaust

FEZER
Simply move more.

Ejectors

Multi-stage ejector with air saving automatic FEMR

Technical data

Type	Vacuum*	Suction volume*		Air consumption*		Pressure** (bar)		Noise level*	Temperature	Weight
	(mbar)	(m^3/h)	(l/s)	(m^3/h)	(l/s)	max.	opt.	dB (A)	(°C)	(kg)
FEMR-6	-750	21,6	6	0,49	1,75	7	6	60 ... 77	-10 ... 60	0,67
FEMR-12	-750	43,2	12	0,97	3,50	7	6	60 ... 77	-10 ... 60	0,72
FEMR-18	-750	64,8	18	1,46	5,25	7	6	60 ... 77	-10 ... 60	0,89
FEMR-24	-750	86,4	24	1,94	7,00	7	6	60 ... 77	-10 ... 60	0,94

* *at optimum pressure,*
** *dry, filtered, oil-free compressed air*

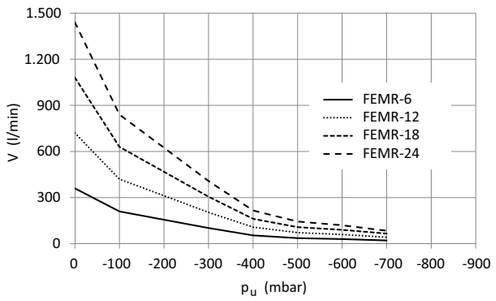
Evacuation and ventilation time (s) for 1l volume

Type	Vacuum level (mbar)								Ventilation time at
	-100	-200	-300	-400	-500	-600	-700	-800	max. vacuum level
FEMR-6	0,02	0,05	0,10	0,20	0,30	0,50	0,80	---	0,48
FEMR-12	0,01	0,03	0,05	0,09	0,20	0,30	0,40	---	0,25
FEMR-18	0,07	0,02	0,03	0,06	0,10	0,20	0,30	---	0,18
FEMR-24	0,01	0,01	0,02	0,04	0,08	0,10	0,20	---	0,10

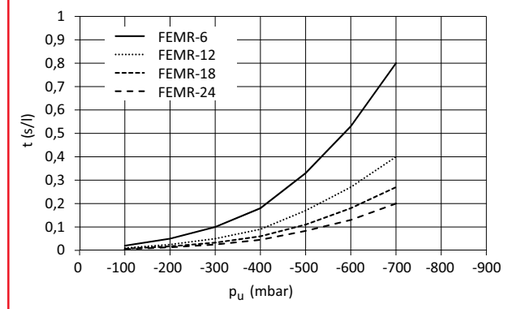
Ejectors

Multi-stage ejector with air saving automatic FEMR

FEZER
Simply move more.



Suction capacity FEMR- at different grades of evacuation

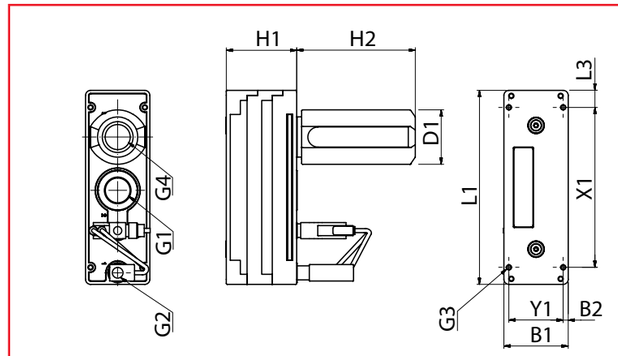


Evacuation time FEMR- at different grades of evacuation

Ejectors

Multi-stage ejector with air saving automatic FEMR

FEZER
Simply move more.



FEMR-6 ... FEMR-36

Dimensions

Type	L1	L2	B1	B2	H1	H2	X1	Y1	G1	G2	G3	G4
FEM-6	198	17	64	5	46	118	159	49	G1/8	G3/4	4	G1
FEM-12	198	17	64	5	46	118	159	49	G1/8	G3/4	4	G1
FEM-18	198	17	64	5	70	118	159	49	G1/8	G3/4	4	G1
FEM-24	198	17	64	5	70	118	159	49	G1/8	G3/4	4	G1

1. Basics
2. Suction Pads
3. Mounting Elements
4. Vacuum Generators
5. Valve Technology
6. Vakcuum Supervision
7. Filter Elements
8. Connection Elements
9. System Technology