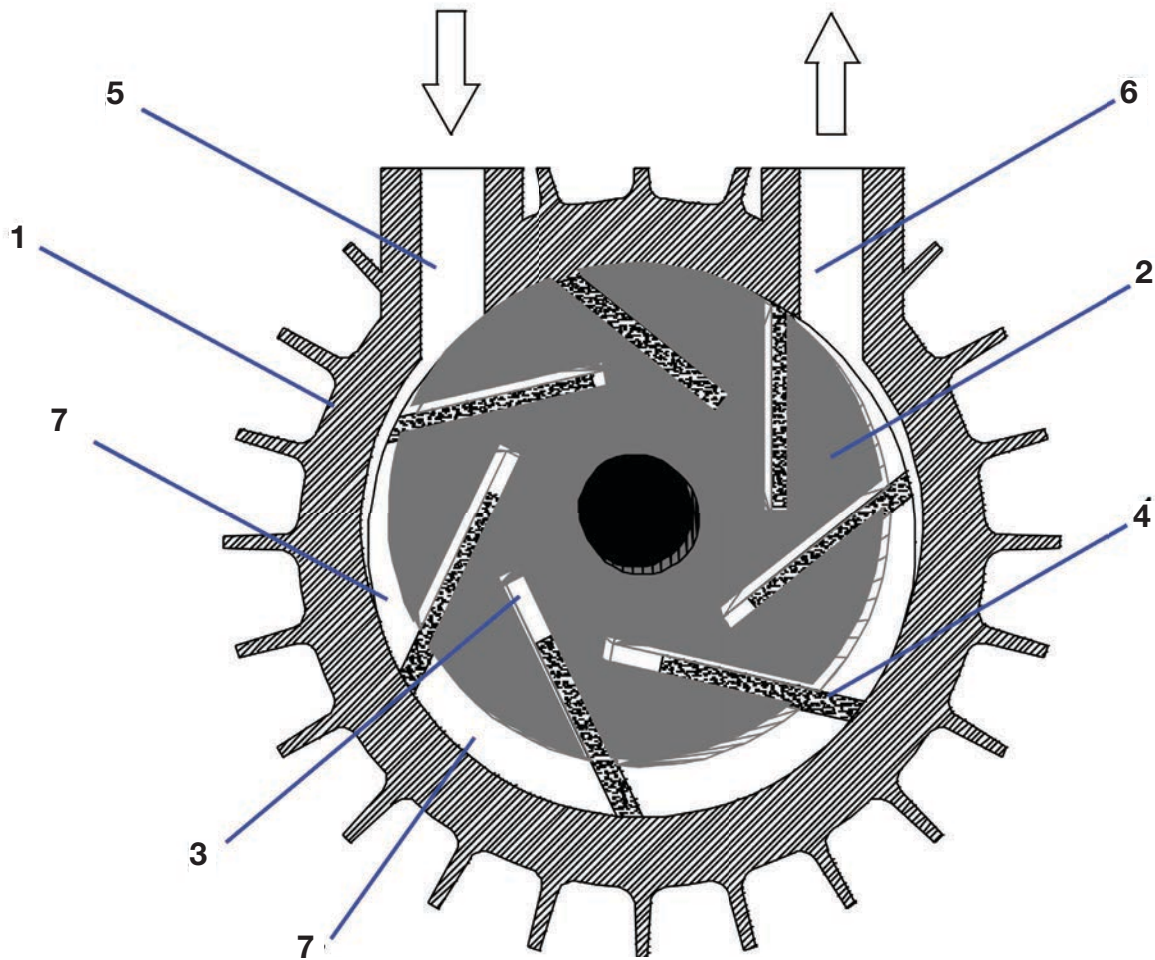


KLEE blower®

Rotary Vane Pumps



Rotary Vane Pumps		
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Rotary vane pump working principle

A rotor (2) is positioned eccentrically in the pump cylindrical housing (1). The free moving vanes (4) are inserted into a numerous rotor slots (3). When the rotor turns the centrifugal force throws the vanes against the cylindrical wall and creates a chamber between the rotor and the cylinder. As the rotor continues to turn the chamber volume between the blades keep changing due to the rotor positioned eccentrically. From the inlet (5) to outlet (6) The chamber volume (7) becomes bigger and then smaller. When the volume gets bigger a vacuum is produced as a result from the rotation of the vanes making air entering the chamber from the inlet (5). When the chamber gets smaller due to the compressed air a pressure is produced at the outlet (6).

Type KBV and KBP size 404-408
Capacity 4.1 to 8.0 m³/h at 50 Hz.
Capacity 4.9 to 9.5 m³/h at 60 Hz.

KBV - for vacuum
KBP - for pressure



Type KBV, KBP and KBC size 410-440
Capacity 10 to 40 m³/h at 50 Hz.
Capacity 12 to 48 m³/h at 60 Hz.

KBV - for vacuum
KBP - for pressure
KBC - for pressure/vacuum / combi model



Type KBV, KBP and KBC size 3060-6140
Capacity 54 to 129 m³/h at 50 Hz.
Capacity 63 to 160 m³/h at 60 Hz.

KBV - for vacuum
KBP - for pressure
KBC - for pressure/vacuum / combi model

Technical data size 404 to 408

Model	Capacity max. m ³ /h		Vacuum mbar (abs.)		Pressure max. bar		Motor output Max. capacity kW		Voltage 3 ~ V		Noise level by 1 m dB		Weight kg.
	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	
KBV 404	4.1	4.7	150	150	-	-	0.18	0.22	△ 208-255	△ 220-265	59	61	7.5
KBP 404	4.2	4.9	-	-	+1.0	+1.0			Y 360-440	Y 380-480	58	61	
KBV 408	7.6	8.7	150	150	-	-	0.35	0.42	△ 208-255	△ 220-265	60	61	12
KBP 408	8.0	9.5	-	-	+1.0	+1.0			Y 360-440	Y 380-460	58	62	

Model KBV is for vacuum applications down to an ultimate pressure of 150 mbar.
Model KBP is for max. positive pressure of 1000 mbar (2000 mbar abs.)

Operating conditions:

- Environment temperature: 0 ~ + 40°C
- Air temperature at inlet: -5°C ~ +40°C
- Altitude above sea level: 800 M (max.)
- Relative humidity: 80% (max.)

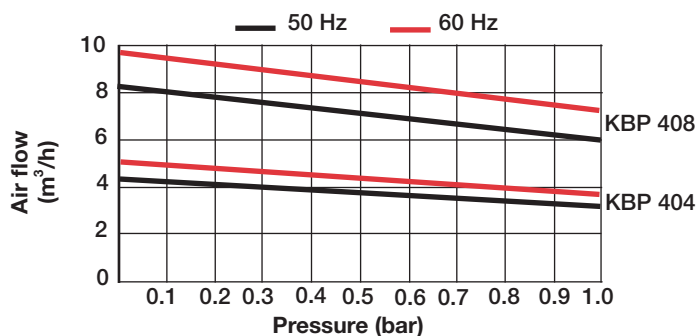
Motor data for vacuum pump:

- EN 60034
- IP 54, 55
- Operating cycle S1
- CE and UL approvals
- Insulation class F(155°C)

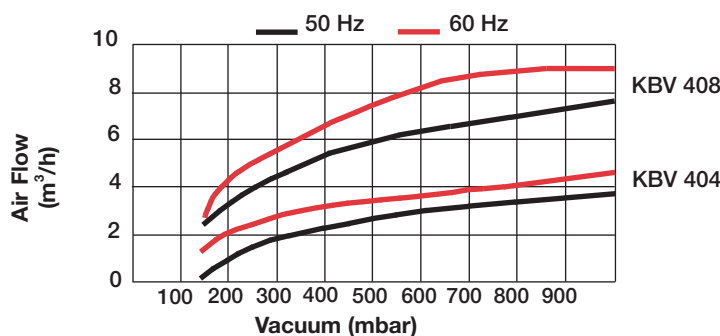
Storage:

- Store the rotary vane pump in dry surroundings
- Store in a place free of dust
- Store in a place with low vibrations (<2,8 mm/s)
- Ambient temperature: <40°C (104°F)

Operating supply must be within 5% of the rated voltage, and the frequency variance 2%



- Reference atmosphere: 1000 mbar, +20°C
- Allowable tolerance ± 5%



- Reference atmosphere: 1000 mbar, +20°C
- Allowable tolerance ± 5%

Model	A	B	C	D	E	F	G	H	J	K	L	M
KBV 404	80	106	202	125	100	116	77	151	154	75	234	92
KBP 404	80	106	202	125	100	116	77	165	154	75	234	92
KBV 408	80	106	209	125	100	116	77	158	155	79	244	93
KBP 408	80	106	209	125	100	116	77	171.5	155	79	244	93

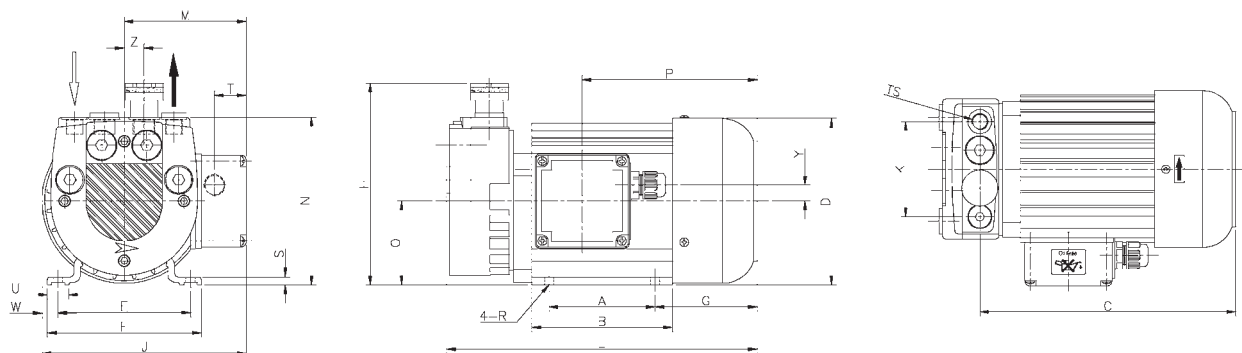
Model	N	O	P	R	S	T	U	W	Y	Z	TS
KBV 404	126	63	132	Ø7	6	24	16	12	12	15	PF 1/4"
KBP 404	126	63	132	Ø7	6	24	16	12	12	15	PF 1/4"
KBV 408	133	63	132	Ø7	6	24	16	12	12	15.5	PF 3/8"
KBP 408	133	63	132	Ø7	6	24	16	12	12	15.5	PF 3/8"

By vacuum (or pressure) close to or above the value of the stamp plate a vacuum-pressure relief valve must be mounted to protect the motor against overload.

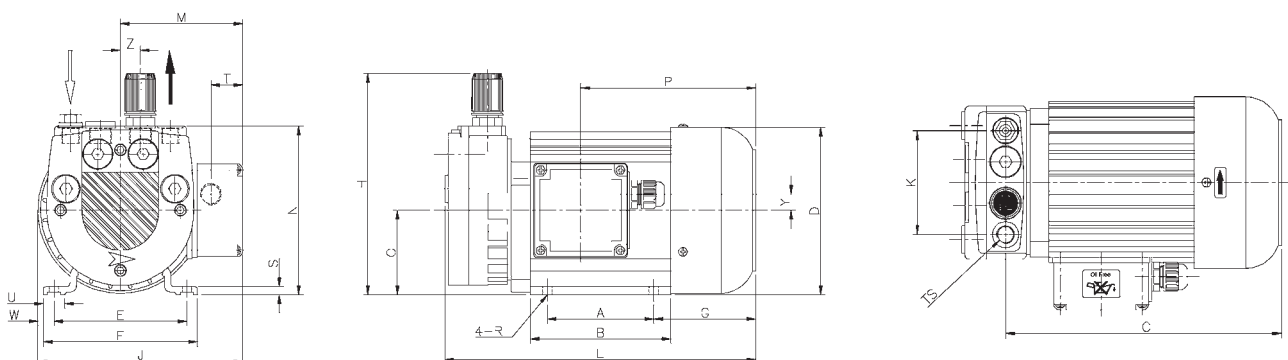
Fittings and accessories:

- External air filter. For extension of life of suction filter in very dusty environments.
- Vacuum reduction valve. Protects against overload. (KBV only)
- Pressure relief valve. Protects against overload. (KBP only)
- Check valve. For protection against loss of pressure/vacuum in case the system must be stopped. In case piping layout exceeding 5 meters we recommend mounting a check valve. If the pump is switched off air can drift back into the suction valve. This can be prevented by using a check valve or solenoid valve.

Model KBV



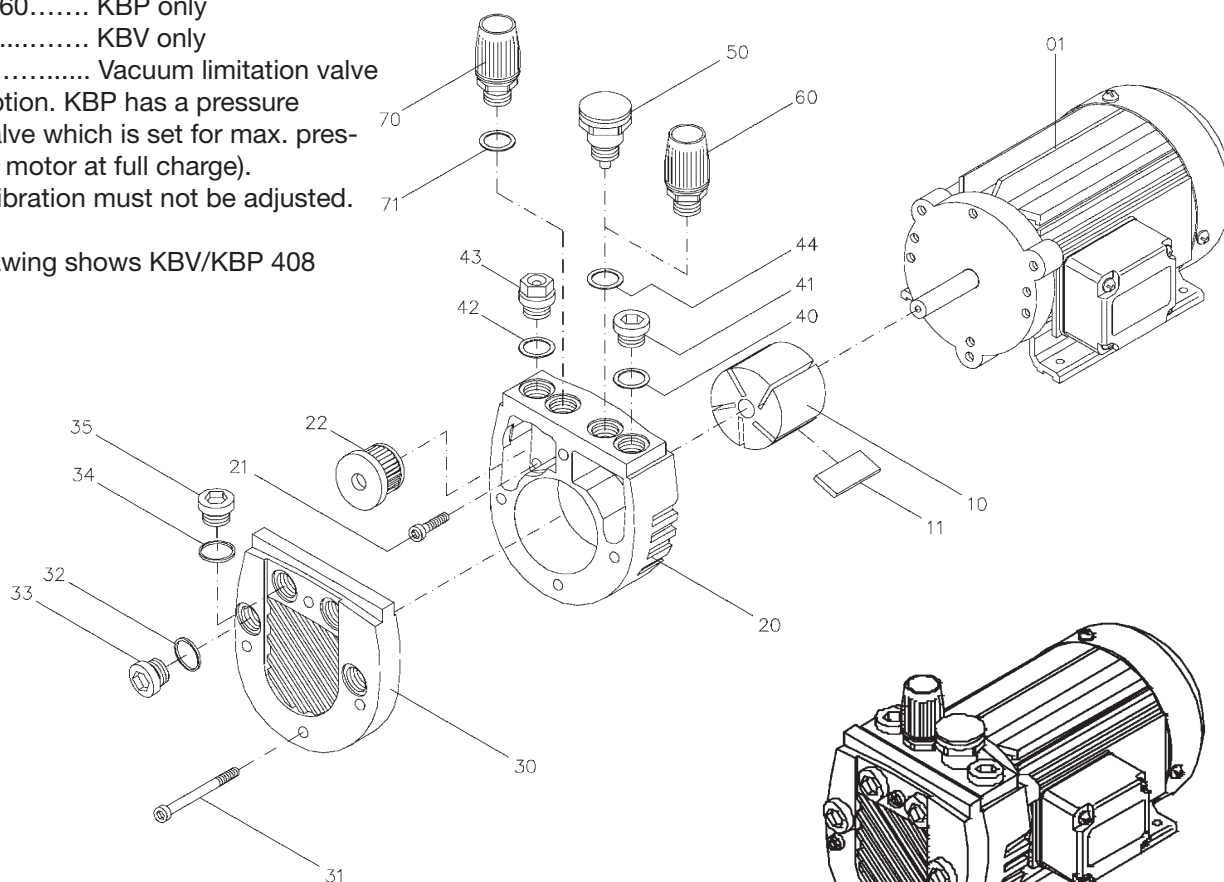
Model KBP



Rotary Vane Pump

22, 43, 60..... KBP only
 40, 70..... KBV only
 20..... Vacuum limitation valve
 is an option. KBP has a pressure
 relief valve which is set for max. pres-
 sure (of motor at full charge).
 The calibration must not be adjusted.

The drawing shows KBV/KBP 408



Article no.	Description	No.
01	Motor	1
10	Rotor	1
11	Carbon Vanes	5
20	Cylinder housing	1
21	Screw for cylinder housing	2
22 (version KBP*2 pcs.)	Filter cartridge	1
30	Cylinder cover	1
31	Screw for cylindercover	4
32	Sealing	2
33	Screw plug	2
34	Sealing	2
35	Screw plug	2
40 (version KBV)	Sealing	1
41	Screw plug	1
42	Sealing	1
43 (version KBP)	Onlet screw plug	1
44	Spring valve	1
50	Silencer valve	1
60 (version KBP)	Pressure relief valve	1
70 (version KBV) *optional	Vacuum limitation valve	1
71	Sealing	1

Replacement of parts and extraordinary maintenance of the vacuum pump must be carried out by authorized dealer and by authorized personnel only. If maintenance is carried out in another way than prescribed the warranty stops and the manufacturer will disclaim any responsibility for defects and personal injury related to unauthorized repair of the product. Do always order spare parts from your authorized dealer and remember to state type of model, the name of the spare part as well as its spare part number.

Model	Capacity max. m ³ /h		Vacuum mbar (abs.)		Pressure bar		Motor output max. capacity kW		Voltage 3 ~ V		Noise level by 1 m dB		Weight kg.
	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	
KBV 410	10	12	150	150	-	-	0.37	0.45	△ 200-255 Y 346-440	△ 220-275 Y 380-480	58	60	21
KBP 410	10	12	-	-	+1.0	+1.0					56	59	30
KBC 410	10	12	500	500	±0.5	±0.5					59	61	24
KBV 416	16	19	150	150	-	-	0.55	0.7	△ 200-255 Y 346-440	△ 220-275 Y 380-460	62	63	31
KBP 416	16	19	-	-	+1.0	+1.0					60	62	32
KBC 416	16	20	500	500	±0.5	±0.5					70	70	46
KBV 425	25	30	120	120	-	-	0.75	0.9	△ 200-255 Y 346-440	△ 220-275 Y 380-460	65	68	38
KBP 425	25	30	-	-	+0.6	+0.6					70	70	52
KBP 425K	25	30	-	-	+1.0	+1.0							
KBC 425K	25	30	400	400	±0.6	±0.6	1.1	1.3					
KBV 440	40	48	120	120	-	-	1.25	1.5	△ 200-255 Y 346-440	△ 220-275 Y 380-460			
KBP 440	40	48	-	-	+0.6	+0.6							
KBP 440K	40	48	-	-	+1.0	+1.0							
KBC 440K	35	43	400	400	±0.6	±0.6	1.85	2.2					

Model KBV is for vacuum applications down to an ultimate pressure of 120/150 mbar.

Model KBP is for max. positive pressure of 1000 mbar (2000 mbar abs.)

Model KBC is a combi version for both vacuum and pressure.

KBC 425K/440K have a cooler to reduce the temperature of the exhaust air.

Operating conditions:

- Air temperature at inlet: +5°C ~ +45°C
- Altitude above sea level: 800 M (max.)
- Relative humidity: 80% (max.)

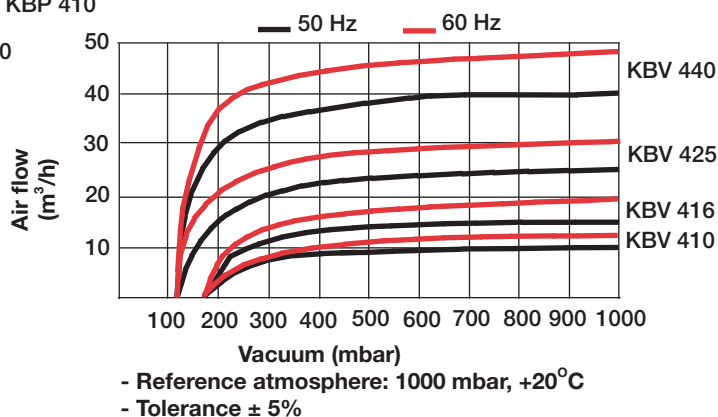
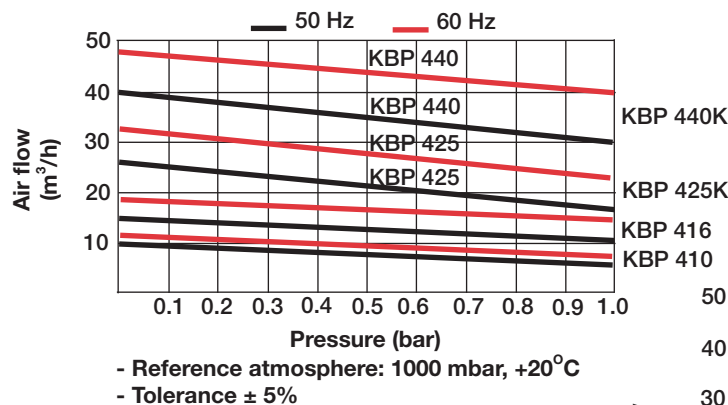
Motor data for vacuum pump

- EN 60034
- IP 54, 55
- Operating cycle S1
- CE and UL approvals
- Insulation class F(155°C)

Storage:

- Store the rotary vane pump in dry surroundings
- Store in a place free of dust
- Store in a place with low vibrations (<2,8 mm/s)
- Ambient temperature: <40°C (104°F)

Operating supply must be within 5% of rated voltage, and the frequency variance 2%



Performance for KBC size 410-440 (combi)

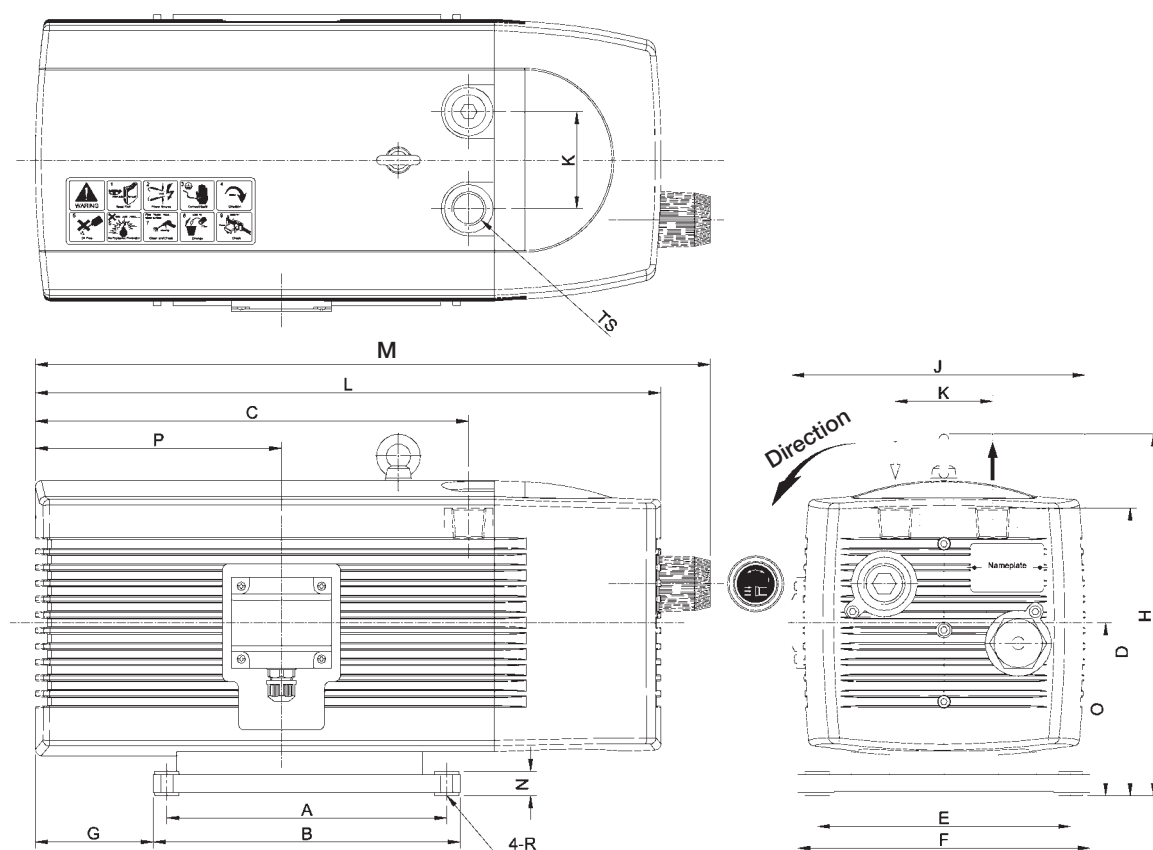
Type		Pressure bar	50 Hz Vacuum (bar)			60 Hz Vacuum (bar)		
			0	-0.25	-0.5	0	-0.25	-0.5
KBC 410	Vacuum m ³ /h Pressure m ³ /h Motor capacity kW Temperature increase °C	+0.25	9.46 9.46 0.18 48	7.05 7.05 0.21 54	4.06 4.06 0.23 59	11.71 11.71 0.23 52	8.24 8.24 0.27 59	4.92 4.92 0.29 63
	Vacuum m ³ /h Pressure m ³ /h Motor capacity kW Temperature increase °C	+0.5	9.36 9.36 0.24 58	6.45 6.45 0.28 63	3.59 3.59 0.31 68	11.05 11.05 0.31 60	6.97 6.97 0.32 67	4.47 4.47 0.36 73
KBC 416	Vacuum m ³ /h Pressure m ³ /h Motor capacity kW Temperature increase °C	+0.25	15.4 15.4 0.41 61	11.1 11.1 0.43 66	6.51 6.51 0.44 75	18.2 18.2 0.52 69	13.1 13.1 0.54 74	8.01 8.01 0.55 83
	Vacuum m ³ /h Pressure m ³ /h Motor capacity kW Temperature increase °C	+0.5	15 15 0.48 69	10 10 0.48 79	6.01 6.01 0.52 83	17.8 17.8 0.59 77	12.2 12.2 0.60 85	7.3 7.3 0.63 93

Type		Pressure bar	50 Hz Vacuum (bar)				60 Hz Vacuum (bar)			
			0	-0.4	-0.5	-0.6	0	-0.4	-0.5	-0.6
KBC 425K	Vacuum m ³ /h Pressure m ³ /h Motor capacity kW Temperature increase °C	+0.4	23.8 25.2 0.73 37	12.7 20 0.93 38	10.1 18.6 0.97 39	7.2 17.2 1.1 40	28.5 30.6 0.94 37	16.5 23.5 1.1 41	12.2 21.5 1.12 42	9.1 19.7 1.12 43
	Vacuum m ³ /h Pressure m ³ /h Motor capacity kW Temperature increase °C	+0.5	23.2 24.7 0.78 36	12.4 29.5 0.93 39	9.9 16.1 1 40	7.11 16.8 1.06 41	28.3 30.1 1.04 38	15.5 23.1 1.16 42	12.1 21.4 1.19 43	9.02 19.5 1.24 44
	Vacuum m ³ /h Pressure m ³ /h Motor capacity kW Temperature increase °C	+0.6	23 24.3 0.83 38	12.1 19 0.98 39	9.7 17.7 1.05 40	7 16.5 1.1 42	28.1 30.2 1.05 40	15.3 23 1.22 43	12.2 21.1 1.25 44	9 19.3 1.3 45
KBC 440K	Vacuum m ³ /h Pressure m ³ /h Motor capacity kW Temperature increase °C	+0.4	34.6 34.2 1.09 37	17.7 26.1 1.33 41	13.8 23.5 1.37 42	10.1 20.6 1.43 43	42.3 42.2 1.45 40	21.3 30.7 1.75 43	17.1 27.3 1.78 43	13.2 24.4 1.87 44
	Vacuum m ³ /h Pressure m ³ /h Motor capacity kW Temperature increase °C	+0.5	34.4 33.8 1.13 39	17.4 25.2 1.41 41	13.3 22.9 1.47 42	9.9 19.9 1.53 43	42.2 41.7 1.53 41	21.4 30.6 1.81 45	17 27.1 1.85 44	12.5 23.7 1.96 43
	Vacuum m ³ /h Pressure m ³ /h Motor capacity kW Temperature increase °C	+0.6	34.1 33.3 1.21 39	17.1 25 1.48 41	13.2 22.6 1.53 42	9.6 19.1 1.62 42	40.9 40.9 1.56 43	21.2 30.2 1.9 44	16.5 26.4 1.96 45	12 22.8 2.03 45

By vacuum (or pressure) close to or above the value of the stamp plate a vacuum-pressure relief valve must be mounted to protect the motor against overload.

Fittings and accessories:

- External air filter. For extension of life of suction filter in very dusty environments.
- Vacuum reduction valve. Protects against overload. (KBV only)
- Check valve. For protection against loss of pressure/vacuum in case the system must be stopped. In case piping layout exceeding 5 meters we recommend mounting a check valve. If the pump is switched off air can drift back into the suction valve. This can be prevented by using a check valve or solenoid valve.



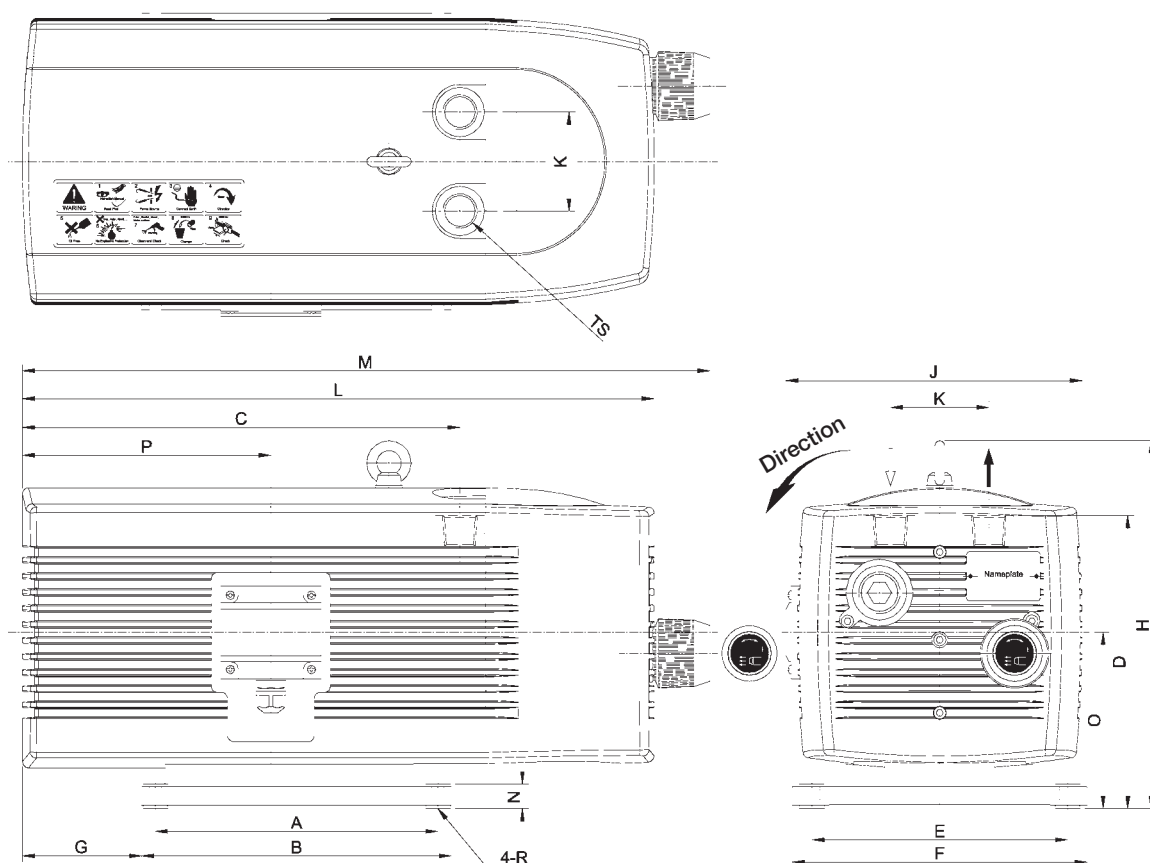
Model	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	TS
KBV 410	202	233	308	200	125	157	91	275	232	75	433	465	20	130	167	Ø9	PF 1/2"
KBV 416	202	233	327	200	125	157	91	275	232	75	458	490	20	130	167	Ø9	PF 1/2"
KBV 425	220	252	353	230	208	240	123	295	243	80	513	555	20	143	192	Ø9	PF 3/4"
KBV 440	220	252	400	230	208	240	153	295	243	80	570	615	20	143	223	Ø9	PF 3/4"

Dimensions KBP size 410 to 440 (pressure)

By vacuum (or pressure) close to or above the value of the stamp plate a vacuum-pressure relief valve must be mounted to protect the motor against overload.

Fittings and accessories:

- Eksternal air filter. For extension of life of suction filter in very dusty environments.
- Pressure relief valve. Protects against overload. (KBP only)
- Check valve. For protection against loss of pressure/vacuum in case the system must be stopped. In case piping layout exceeding 5 meters we recommend mounting a check valve. If the pump is switched off air can drift back into the suction valve. This can be prevented by using a check valve or solenoid valve.



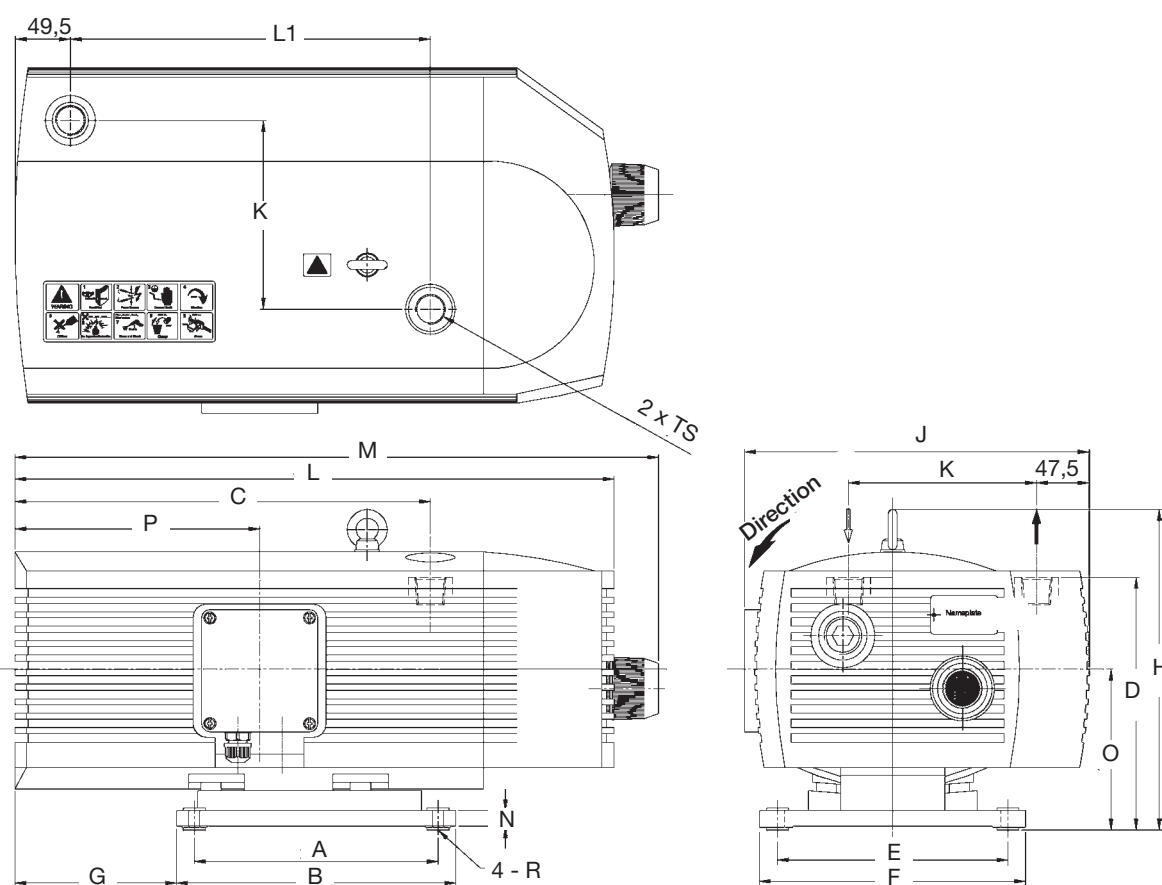
Model	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	TS
KBP 410	202	233	308	200	125	157	91	275	232	75	433	470	20	130	167	Ø9	PF 1/2"
KBP 416	202	233	327	200	125	157	91	275	232	75	458	495	20	130	167	Ø9	PF 1/2"
KBP 425	220	252	353	230	208	240	123	285	243	80	513	560	20	143	192	Ø9	PF 3/4"
KBP 440	220	252	400	230	208	240	153	285	243	80	570	620	20	143	223	Ø9	PF 3/4"

Version: Pressure with cooling.

By vacuum (or pressure) close to or above the value of the stamp plate a vacuum-pressure relief valve must be mounted to protect the motor against overload.

Fittings and accessories:

- External air filter. For extension of life of suction filter in very dusty environments.
- Pressure relief valve protects against overload. (only KBP version)
- Check valve. For protection against loss of pressure/vacuum in case the system must be stopped. In case piping layout exceeding 5 meters we recommend mounting a check valve. If the pump is switched off air can drift back into the suction valve. This can be prevented by using a check valve or solenoid valve.



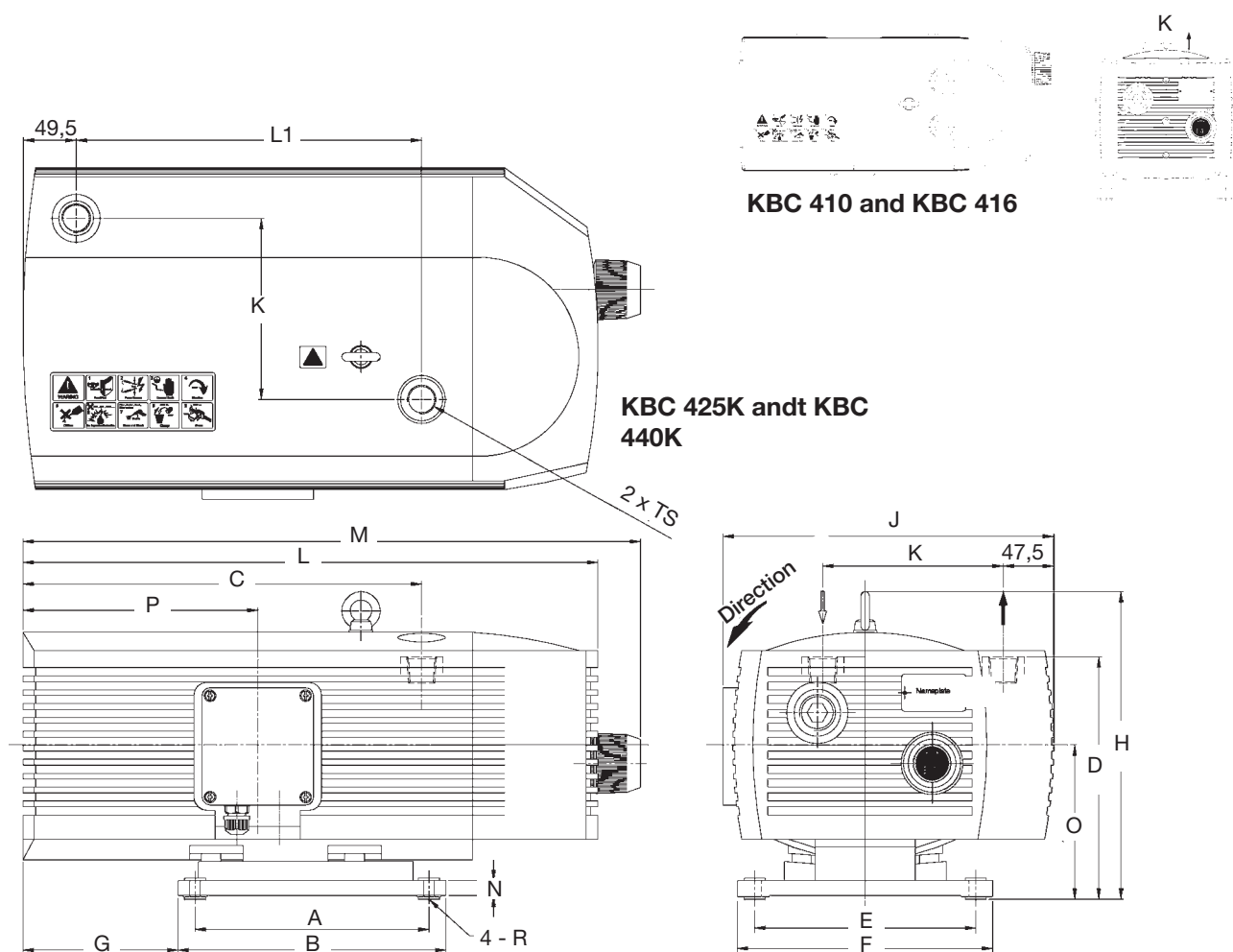
Model	A	B	C	D	E	F	G	H	J	K	L	L1	M	N	O	P	R	TS
KBP 425K	220	252	375	227.5	208	240	146	288,5	311	170	541	325	581	14	145	221	Ø9	PF 3/4"
KBP 440K	220	252	430	227.5	208	240	186	288,5	311	170	608	380	648	14	145	261	Ø9	PF 3/4"

Dimensions KBC size 410 to 440K (combi)

By vacuum (or pressure) close to or above the value of the stamp plate a vacuum-pressure relief valve must be mounted to protect the motor against overload.

Fittings and accessories:

- External air filter. For extension of life of suction filter in very dusty environments.
- Vacuum reduction valve and pressure relief valve protects against overload. (only KBC version)
- Check valve. For protection against loss of pressure/vacuum in case the system must be stopped. In case piping layout exceeding 5 meters we recommend mounting a check valve. If the pump is switched off air can drift back into the suction valve. This can be prevented by using a check valve or solenoid valve.



Model	A	B	C	D	E	F	G	H	J	K	L	L1	M	N	O	P	R	TS
KBC 410	202	233	308	200	190	157	91	275	232	170	433	N/A	470	14	130	167	Ø9	PF 1/2"
KBC 416	202	233	327	200	190	157	91	275	232	170	458	N/A	495	14	130	167	Ø9	PF 1/2"
KBC 425K	397	252	375	228	208	240	146	289	311	170	541	325	581	14	145	221	Ø9	PF 3/4"
KBC 440K	397	252	430	228	208	240	186	289	311	170	608	380	648	14	145	261	Ø9	PF 3/4"

Rotary Vane Pump

14E, 23E, 24E, 34E.... KBP only

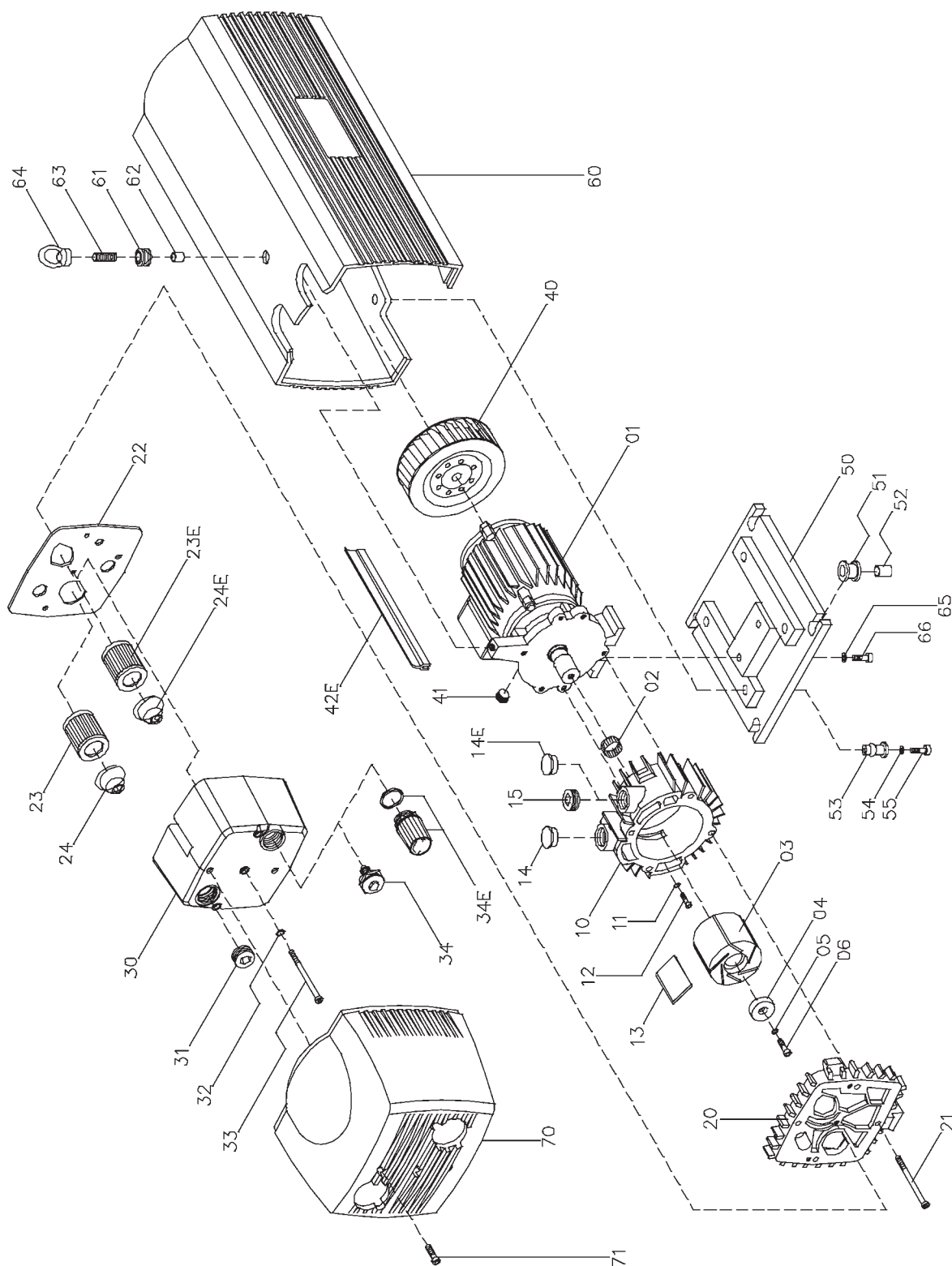
42E..... KBV/KBP 425 – 440 only

KBP has a pressure relief valve which is set for max. pressure (full engine load).

This calibration must not be adjusted.

KBC 425/440 has a cooler for reduction of the temperature of the outlet air.

The drawing shows KBV/KBP 425



Article no.	Description	No.
01	Motor	1
02	Tolerance ring	1
03	Rotor	1
04	Clamping disc	1
05	Spring washer	1
06	Hexagon socket screw	1
10	Cylinder housing	1
11	Retaining spring	2
12	Screw for cylinder housing	2
13	Carbon vanes	7
14	Inlet screw plug	1
14E (version KBP 410-440)	Outlet plug	1
15 (version KBP 410-440)	Screw plug	1
20	Cylinder cover	1
21	Screw for cylinder cover	4
22	Sealing	1
23	Filter cartridge	1
23E (version KBP 410-440)	Filter cartridge	1
24	Pressure spring	1
24E (version KBP 410-440)	Pressure spring	1
30	Filter cover	1
31 (version KBP 410-440)	Screw plug	1
32	Sealing	1
33	Screw for filter cover	3
34 (version KBV 410-440)	Adjustable silencer	1
34E (version KBP 410-440)	Relief valve	1
40	Radial fan	1
41	Sealing	1
42E	Edge protection	1
50	Base	1
51	Shock absorber	4
52	Sleeve	4
53	Rubber element	4
54	Spring	2
55	Screw for base	2
60	Cabinet	1
61	Rubber bushing	1
62	Space tube	1
63	Hexagon socket screw	1
64	Nut	1
65	Spring	2
66	Hexagon socket screw	2
70	Front cabinet	1
71	Hexagon socket screw	2

Replacement of parts and extraordinary maintenance of the vacuum pump must be carried out by authorised dealer and by authorised personnel only. If maintenance is carried out in another way than prescribed the warranty stops and the manufacturer will disclaim any responsibility for defects and personal injury related to unauthorized repair of the product. Do always order spare parts from your authorized dealer and remember to state type of model, the name of the spare part as well as its spare part number.

Rotary Vane pump

14E, 23E, 24E, 34E.... KBP only

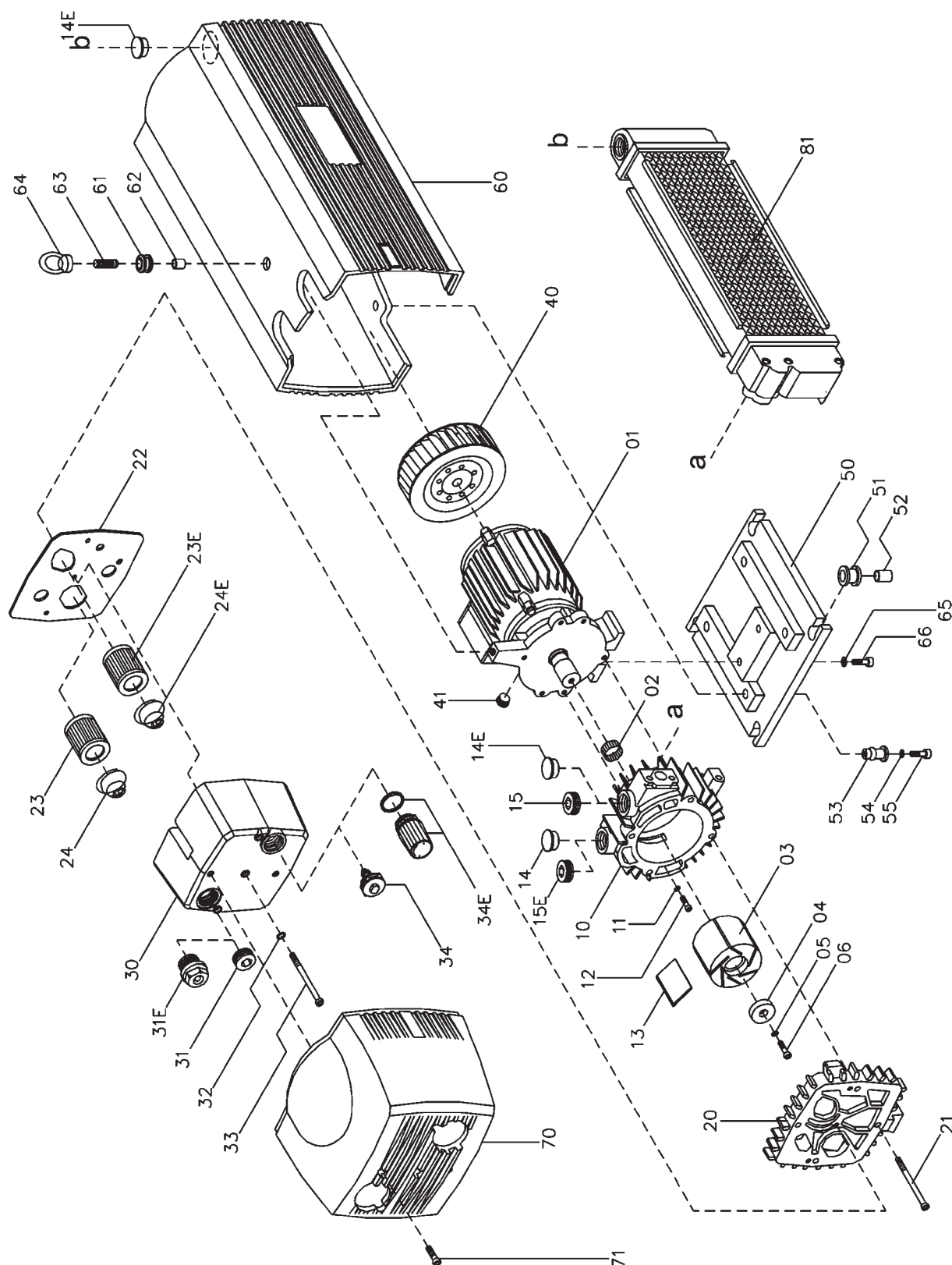
42E..... KBV/KBP 425 – 440 only

Model KBP has a pressure relief valve which is set for max. pressure (full engine load).

This calibration must not be adjusted.

KBC 425/440 has a cooler for reduction of the temperature of the outlet air.

The drawing shows KBP 425K



Article no.	Description	No.
01	Motor	1
02	Tolerance ring	1
03	Rotor	1
04	Clamping disc	1
05	Spring washer	1
06	Hexagon socket screw	1
10	Cylinder housing	1
11	Retaining spring	2
12	Screw for cylinder housing	2
13	Carbon vanes	7
14	Inlet screw plug	1
14E (version KBP 410-440)	Outlet plug	1
15 (version KBP 410-440)	Screw plug	1
20	Cylinder cover	1
21	Screw for cylinder cover	4
22	Sealing	1
23	Filter cartridge	1
23E (version KBP 410-440)	Filter cartridge	1
24	Pressure spring	1
24E (version KBP 410-440)	Pressure spring	1
30	Filter cover	1
31 (version KBP 410-440)	Screw plug	1
32	Sealing	1
33	Screw for filter cover	3
34 (version KBV 410-440)	Silencer valve	1
34E (version KBP 410-440)	Relief valve	1
40	Radial fan	1
41	Sealing	1
42E	Edge protection	1
50	Base	1
51	Shock absorber	4
52	Sleeve	4
53	Rubber element	4
54	Spring	2
55	Screw for base	2
60	Cabinet	1
61	Rubber bushing	1
62	Space tube	1
63	Hexagon socket screw	1
64	Nut	1
65	Spring	2
66	Hexagon socket screw	2
70	Front cabinet	1
71	Hexagon socket screw	2
81	Cooler	1

Replacement of parts and extraordinary maintenance of the vacuum pump must be carried out by authorised dealer and by authorised personnel only. If maintenance is carried out in another way than prescribed the warranty stops and the manufacturer will disclaim any responsibility for defects and personal injury related to unauthorized repair of the product. Do always order spare parts from your authorized dealer and remember to state type of model, the name of the spare part as well as its spare part number.



Technical data KBV 3060 to 3140 (vacuum)

Model KBV for vacuum-applications
max. pressure down to 100/200 mbar abs.

Rotary vane pumps KBV are running
completely without oil.

Operating conditions:

Air temperature inlet: 5°C ~ 45°C
Altitude above sea level: max. 800 m.
Relative humidity: 80% max.

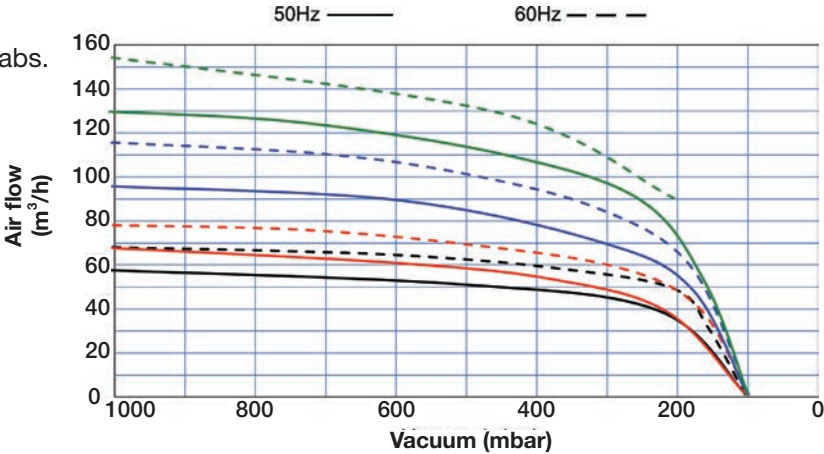
Storage:

Store the rotary vane pump in dry
surroundings.
Store in a place free of dust.
Store in a place with low vibrations (<2,8 mm/s)
Ambient temperature <40°C

Motordata:

EN 60034
IP54, 55
Operating cycle S1
CE and UL approvals
Insulation class F (155°C)

KBV 3060	
KBV 3080	
KBV 3100	
KBV 3140	



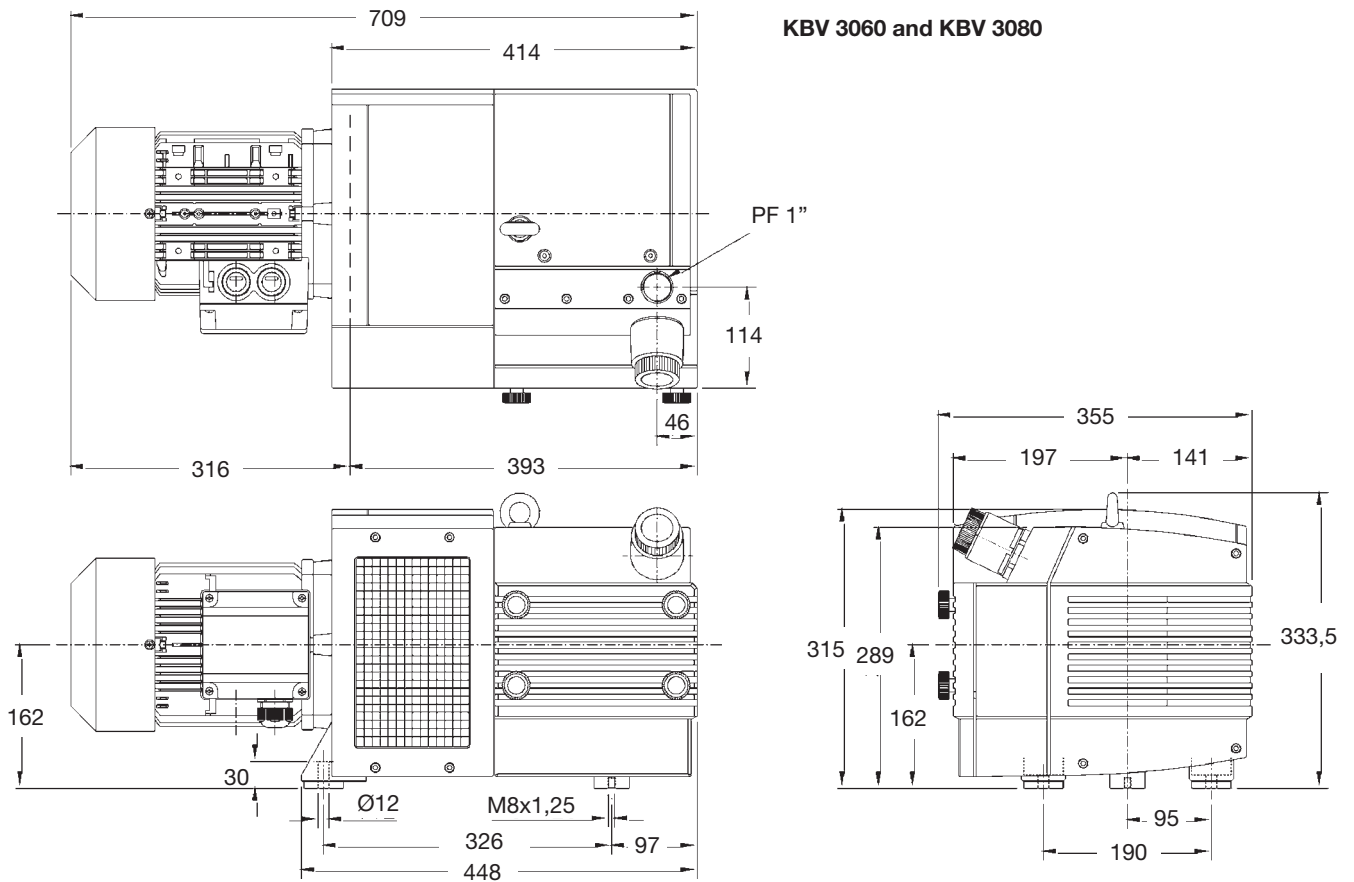
Operating supply must be within 5% of the rated
voltage, and the frequency variance 2%.

Model	Capacity max. m³/h		Ultimative pressure max. mbar (abs.)		Motor power consumption P2 - kW		Motor rated power P1 - kW		Motor speed rpm		Noise level by 1 m dB		Weight kg.
	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	
KBV 3060	55.1	66	100	100	1.3	1.7	2.4	3.0	1420	1715	71	73	70
KBV 3080	67	78.5	100	100	1.7	2.2	2.4	3.0	1420	1715	72	75	70
KBV 3100	98	112	100	100	2.6	3.3	3.0	3.5	1430	1720	75	77	103
KBV 3140	129	154	100	200	3.3	4.4	4.0	4.8	1430	1720	76	79	113

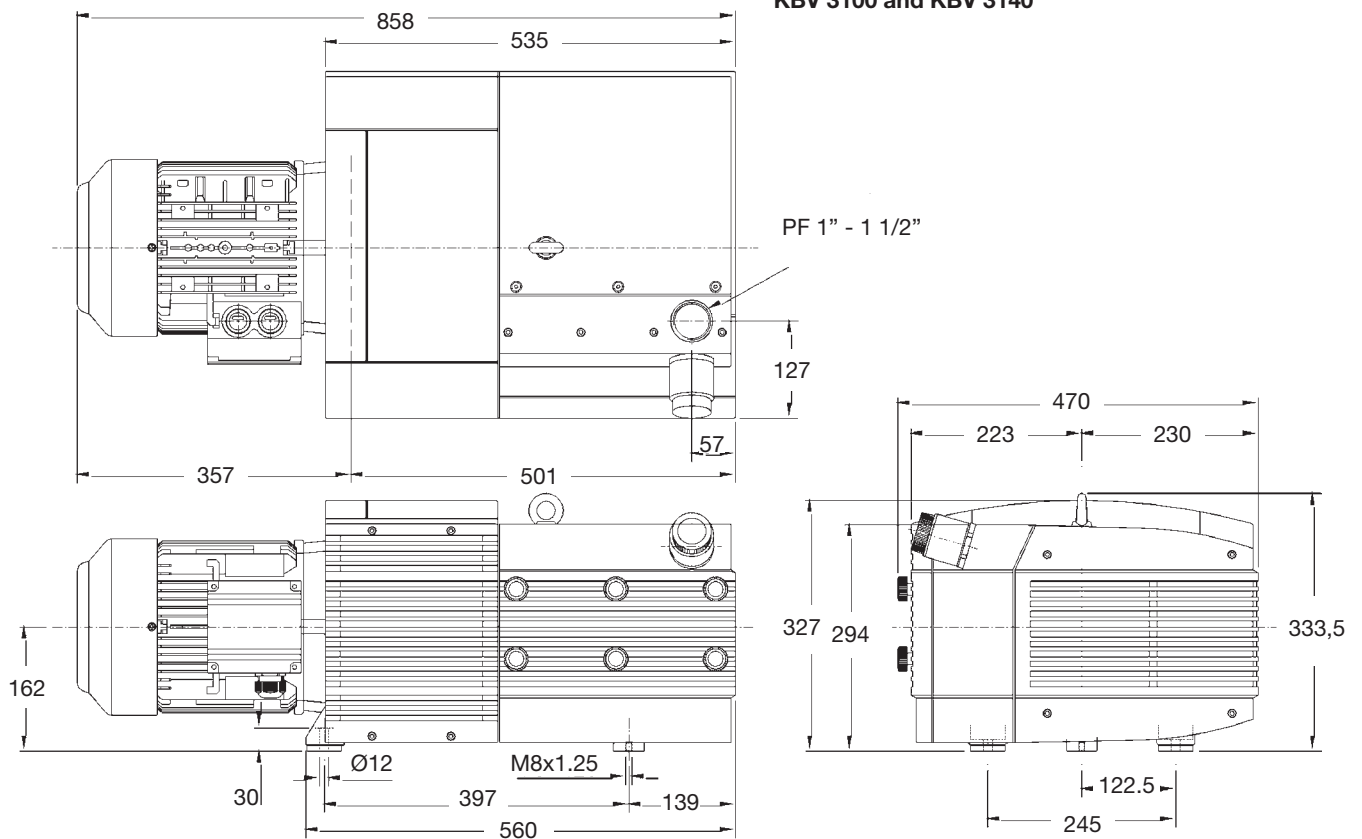
- Reference atmosphere: 1000 mbar, +20°C
- Tolerance ± 5%

Dimensions KBV 3100 to 3140 (vacuum)

KBV 3060 and KBV 3080



KBV 3100 and KBV 3140



Technical data KBP 3060 to 3140 (pressure)

Model KBP for pressure applications up to 1500 mbar (2500 mbar abs.).

Rotary vane pumps KBP are running completely without oil.

Operating conditions:

Air temperature inlet: 5°C ~ 45°C
Altitude above sea level: max. 800 m.
Relative humidity: 80% max.

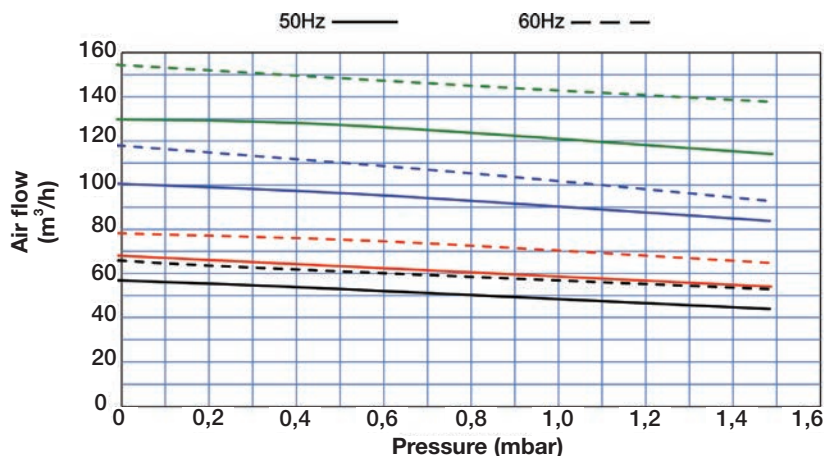
Storage:

Store the rotary vane pump in dry surroundings.
Store in a place free of dust.
Store in a place with low vibrations (<2,8 mm/s)
Ambient temperature <40°C

Motordata:

EN 60034
IP54, 55
Operating cycle S1
CE and UL approvals
Insulation class F (155°C)

Operating supply must be within 5% of the rated voltage, and the frequency variance 2%.



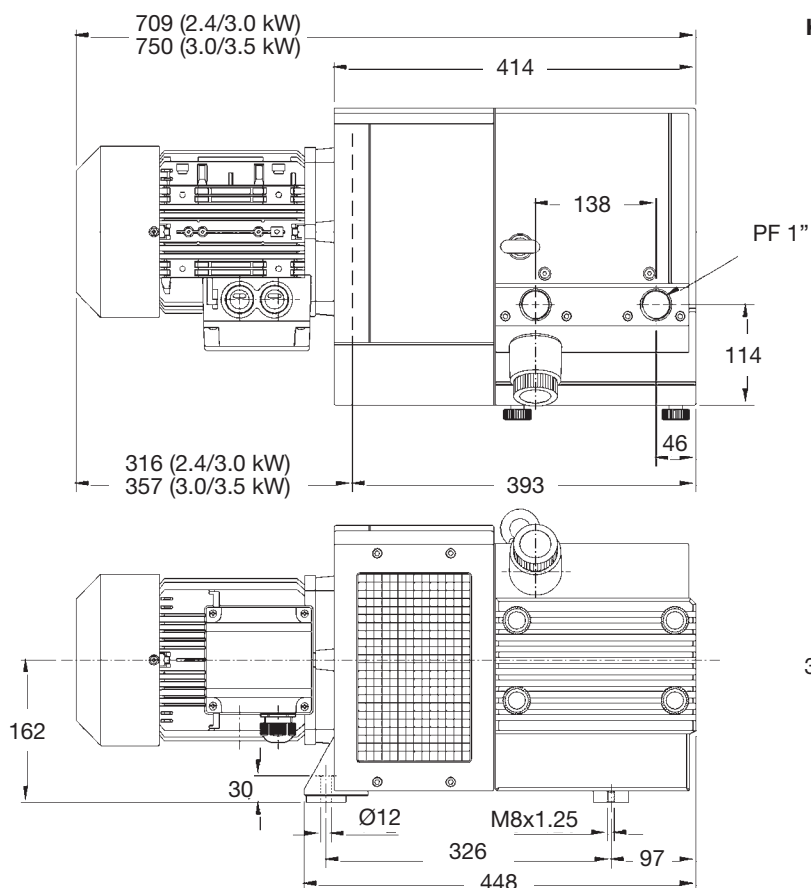
KBP 3060	—
KBP 3080	—
KBP 3100	—
KBP 3140	—

Model	Capacity max. m³/h		Motor power consumption P2 - kW						Motor rated power P1 - kW					
			500 mbar		1000 mbar		1500 mbar		500 mbar		1000 mbar		1500 mbar	
	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz
KBP 3060	54	63	1.4	1.8	2.0	2.7	2.5	3.2	2.4	3.0	2.4	3.0	3.0	3.5
KBP 3080	66	77	2.2	2.7	2.7	3.3	3.3	3.9	2.4	3.0	3.0	3.5	4.0	4.8
KBP 3100	99	118	3.2	4.2	4.0	5.2	4.9	6.2	4.0	4.8	5.5	6.4	5.5	6.4
KBP 3140	129	153	4.3	5.7	5.4	7.0	6.7	8.2	5.5	6.4	7.8	9.3	7.8	9.3

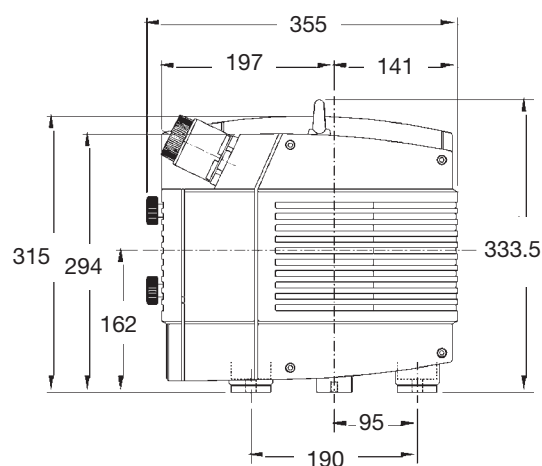
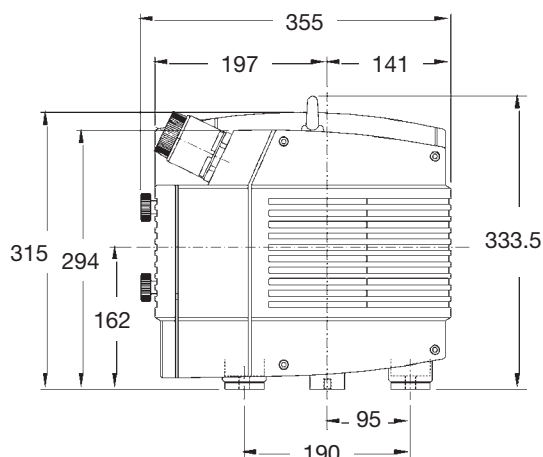
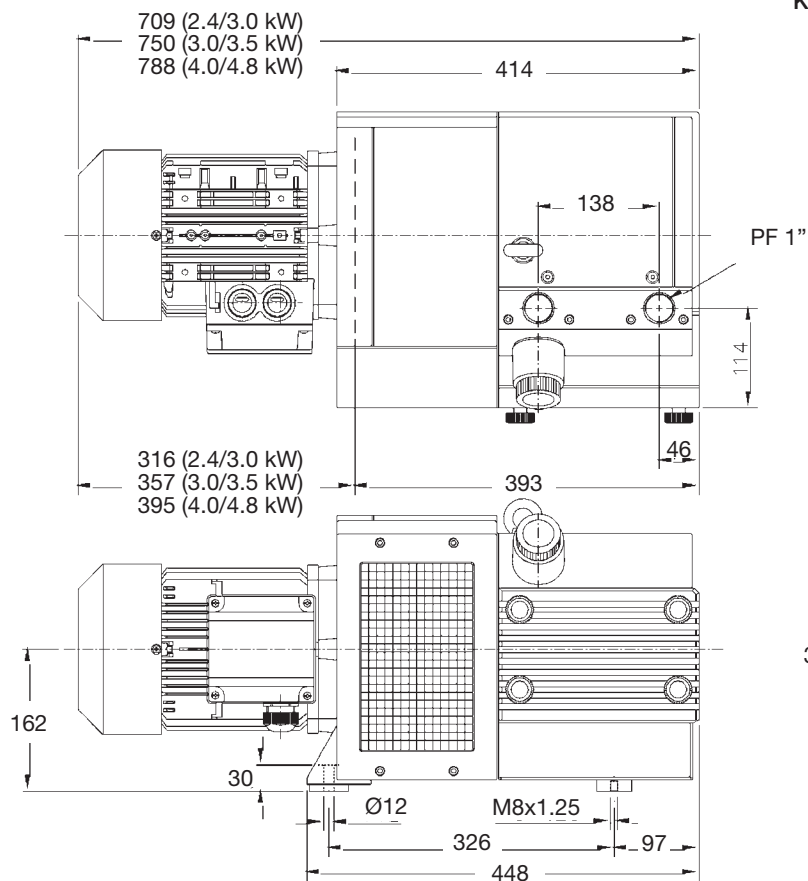
Model	Motor speed rpm		Noise level dB(A)						Weight kg.		
			500 mbar		1000 mbar		1500 mbar		500 mbar	1000 mbar	1500 mbar
	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz			
KBP 3060	1450	1720	71	73	72	74	72	74	74	74	83
KBP 3080	1450	1740	73	75	74	76	74	76	76	85	88
KBP 3100	1450	1740	75	77	76	78	76	78	110	132	132
KBP 3140	1450	1740	80	82	82	84	82	84	136	140	140

- Reference atmosphere: 1000 mbar, +20°C
- Tolerance ± 5%

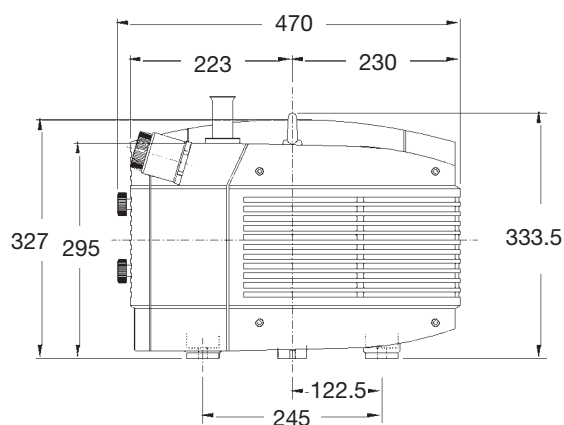
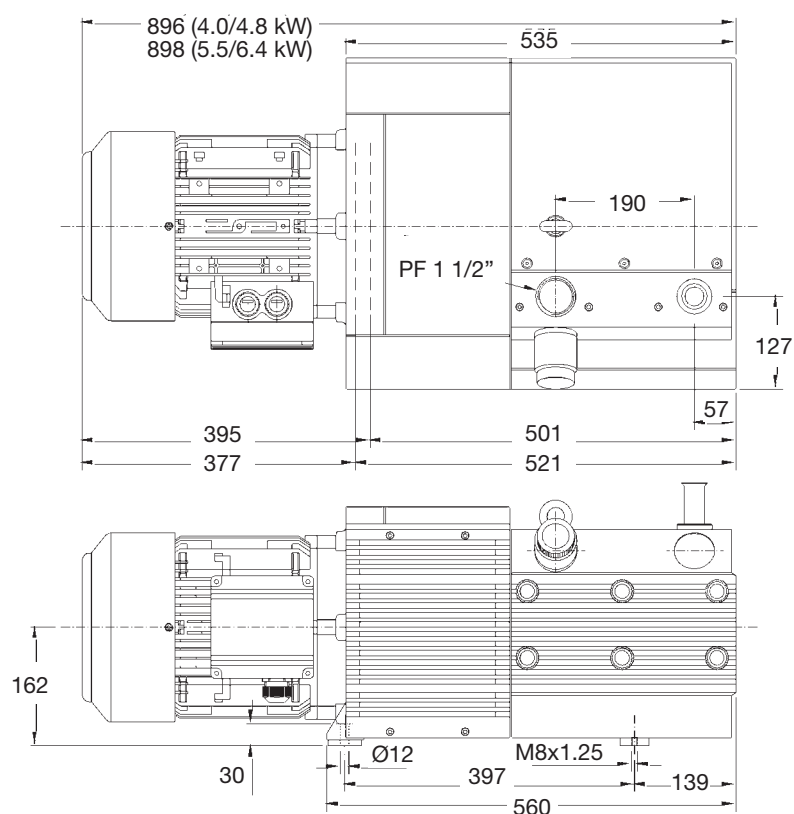
KBP 3060



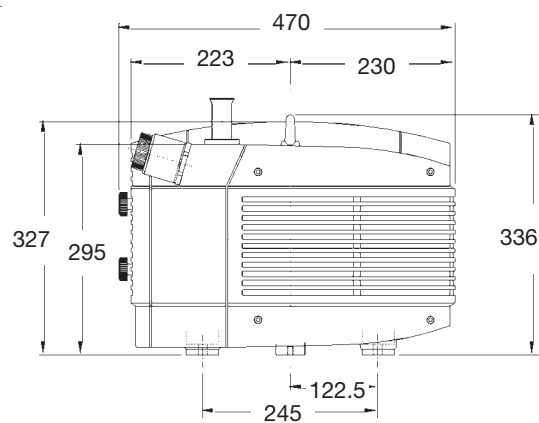
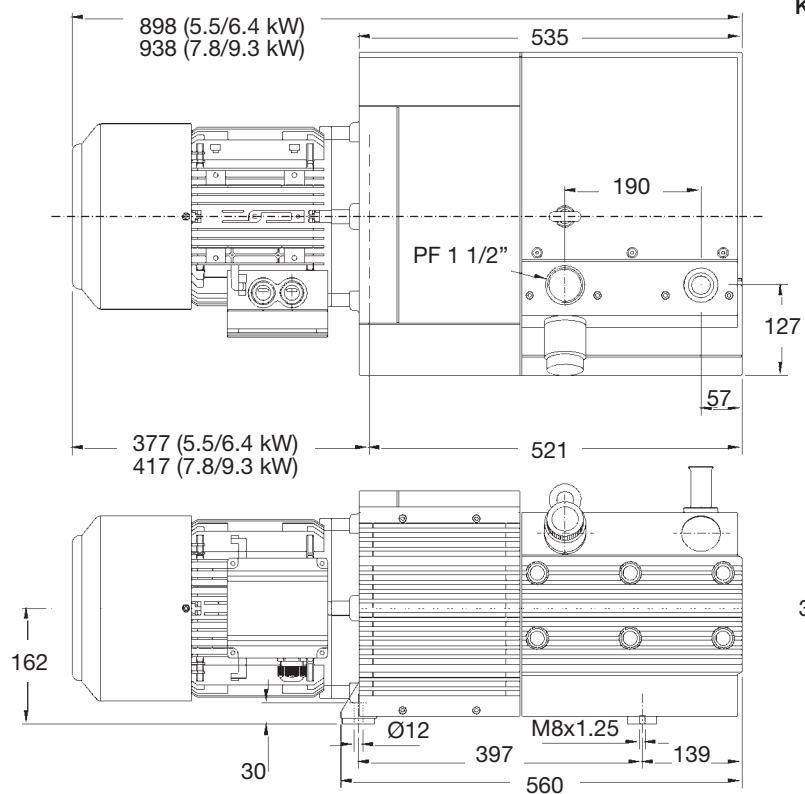
KBP 3080



KBP 3100



KBP 3140



Technical data KBC 3060 and 3140 (combi)

Model KBC for pressure- and vacuum applications

Rotary vane pumps KBP are running completely without oil.

Operating conditions:

Air temperature inlet: 5°C ~ 45°C

Altitude above sea level: max. 800 m.

Relative humidity: 80% max.

Storage:

Store the rotary vane pump in dry surroundings.

Store in a place free of dust.

Store in a place with low vibrations (<2,8 mm/s)

Ambient temperature <40°C

Motordata:

EN 60034

IP54, 55

Operating cycle S1

CE and UL approvals

Insulation class F (155°C)



Operating supply must be within 5% of the rated voltage, and the frequency variance 2%.

Model	Capacity max. m ³ /h		Motor kW		Max. pressure/vacuum bar		Motor speed rpm		Noise level dB(A)		Weight kg
	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	
KBC 3060	57	68	3.0	3.5	±0.6	±0.6	1440	1740	75.0	76	84
KBC 3080	70	81	4.0	4.8	±0.6	±0.6	1450	1760	76	77	89
KBC 3100	102	120	5.5	6.4	±0.6	±0.6	1460	1750	77	78	133
KBC 3140	137	160	7.8	9.3	±0.6	±0.6	1450	1740	78	79	141

- Reference atmosphere: 1000 mbar, +20°C

- Tolerance ± 5%

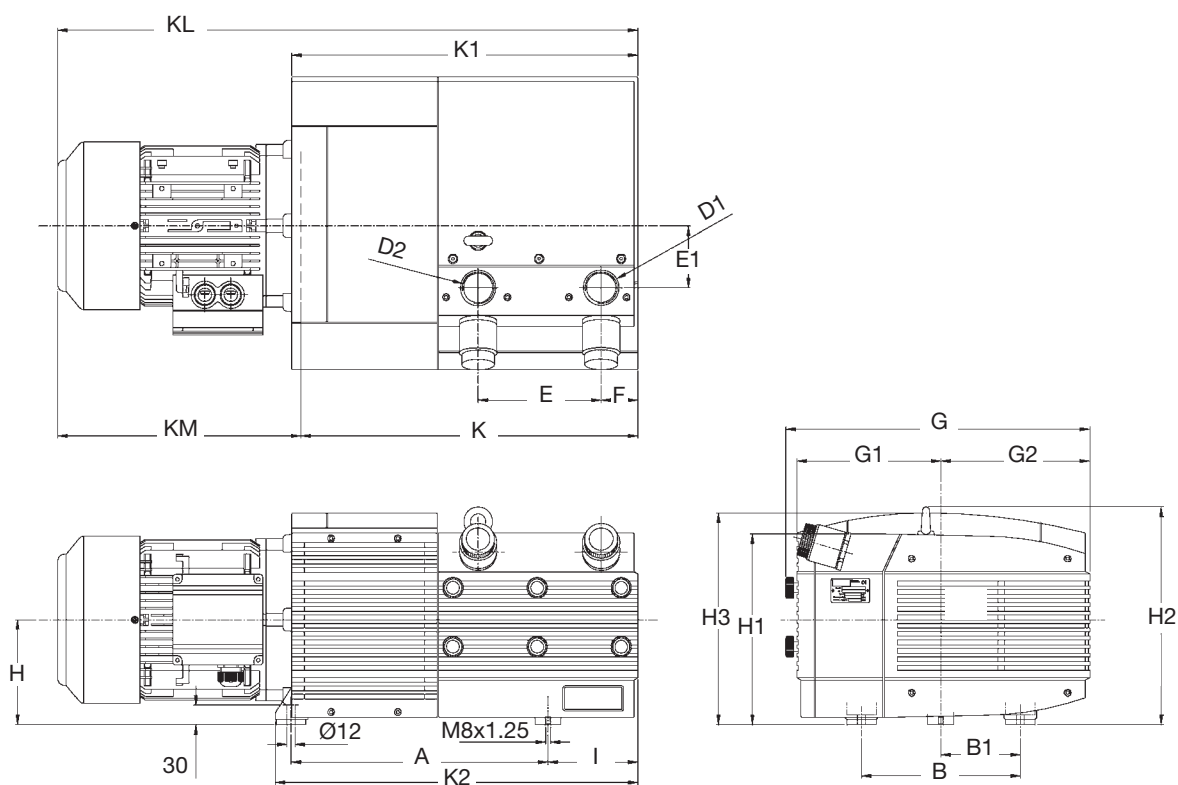
Type		Pressure (bar)	50 Hz Vacuum (bar)				60 Hz Vacuum (bar)			
			0	-0.4	-0.5	-0.6	0	-0.4	-0.5	-0.6
KBC 3060	Vacuum m ³ /h	+0.4	56	29	21.8	16.6	65.1	35.2	28	21.6
	Pressure m ³ /h		58	42.7	37.4	33.9	68.4	49.7	44.6	39.1
	Motor capacity kW		1.78	2.1	2.17	2.18	2.41	2.71	2.76	2.82
	Temperature increase °C		40	44	45	46	42	46	46	46
	Vacuum m ³ /h	+0.5	55	28.3	22.1	16.1	65	34.7	27	21.1
	Pressure m ³ /h		56.8	42	37.2	32.7	68.2	49.5	43.4	38.5
	Motor capacity kW		1.87	2.1	2.23	2.33	2.52	2.86	2.85	2.9
	Temperature increase °C		41	44	45	46	44	46	46	47
	Vacuum m ³ /h	+0.6	54.5	28.2	21.8	15.5	63.7	33.7	27.2	20.5
	Pressure m ³ /h		56.1	41.3	37	32.3	67.1	48.2	43.3	38
	Motor capacity kW		1.9	2.25	2.35	2.41	2.6	2.91	3	3.05
	Temperature increase °C		40	44	46	46	45	48	49	49
KBC 3080	Vacuum m ³ /h	+0.4	64	32.4	25	17.9	77.5	40.5	31.7	23.6
	Pressure m ³ /h		65.9	51.8	47.3	43.1	82.5	62.9	56.7	50.8
	Motor capacity kW		2.11	2.56	2.63	2.7	3.3	3.3	3.33	3.39
	Temperature increase °C		41	46	45.8	45.8	49	49	50	50
	Vacuum m ³ /h	+0.5	63.8	32.1	25	18.1	76.2	40.5	31.8	23.3
	Pressure m ³ /h		65	51.2	47	43	81.2	62.8	56.6	50.3
	Motor capacity kW		2.15	2.65	2.72	2.82	2.93	3.36	3.42	3.47
	Temperature increase °C		41	48	48	49	45	50	52	51
	Vacuum m ³ /h	+0.6	62.8	32	24.6	17.5	75.9	40.5	31.5	23.4
	Pressure m ³ /h		64.5	51	46.6	42.3	80.6	62.5	55.8	50.1
	Motor capacity kW		2.25	2.73	2.8	2.9	3	3.45	3.53	3.57
	Temperature increase °C		43	46	49	48	46	52	52	52
KBC 3100	Vacuum m ³ /h	+0.4	95.6	51	40.5	29.6	112.3	62	49.6	37.5
	Pressure m ³ /h		98	74.5	67	58.5	117.2	87.2	77.7	67.5
	Motor capacity kW		3.1	3.85	3.97	4.1	4.45	5	5.04	5.12
	Temperature increase °C		38	42	43	44	42	46	46	46
	Vacuum m ³ /h	+0.5	95.6	51	40.1	29.5	113.5	62.5	50	37.5
	Pressure m ³ /h		97.8	74.5	66.6	58.7	119	88.1	78	67.6
	Motor capacity kW		3.25	4	4.1	4.23	4.52	5.11	5.2	5.3
	Temperature increase °C		40	43	45	46	44	47	48	48
	Vacuum m ³ /h	+0.6	96	50.1	39.6	29.7	112.7	61.7	49	37.5
	Pressure m ³ /h		98.5	73.5	66.2	58.7	117.6	87.7	77.5	67.6
	Motor capacity kW		3.4	4.17	4.3	4.23	4.65	5.3	5.37	5.44
	Temperature increase °C		40	45	46	46	44	47	47	48
KBC 3140	Vacuum m ³ /h	+0.4	126.5	72	58	43	150	84	67	51
	Pressure m ³ /h		140	103	86	82	164	118.1	105	91.3
	Motor capacity kW		5	5.26	5.35	5.35	6.56	6.5	6.3	6.3
	Temperature increase °C		46	56	57	57	53	59	60	61
	Vacuum m ³ /h	+0.5	125	69	54.8	41	149	83	66.3	50
	Pressure m ³ /h		138	101	91	80	162.8	117	104	90.8
	Motor capacity kW		5.1	5.4	5.43	5.45	6.75	6.59	6.53	6.5
	Temperature increase °C		48	56	57	57	54	59	61	62
	Vacuum m ³ /h	+0.6	125.9	65	51	38	147.8	83	65.9	50
	Pressure m ³ /h		138	99	89	77.8	162	116	102.7	89.8
	Motor capacity kW		5.2	5.55	5.55	5.6	6.83	6.75	6.8	6.85
	Temperature increase °C		50	57	59	58	55	60	60	62

Dimensions KBC size 3060 to 3140 (combi)

By vacuum (or pressure) close to or above the value of the stamp plate a vacuum-pressure relief valve must be mounted to protect the motor against overload.

Fittings and accessories:

- External airfilter. For extension of life of suction filter in very dusty environments.
- Vacuum reduction valve and pressure relief valve protects against overload. (only KBC version)
- Check valve. For protection against loss of pressure/vacuum in case the system must be stopped. In case piping layout exceeding 5 meters we recommend mounting a check valve. If the pump is switched off air can drift back into the suction valve. This can be prevented by using a check valve or solenoid valve.



Model	A	B	B1	D1	D2	E	E1	F	G	G1
KBC 3060	326	190	95	PF 1"	PF 1"	138	85	46	335	197
KBC 3080	326	190	95	PF 1"	PF 1"	138	85	46	335	197
KBC 3100	397	245	122.5	PF 1 1/2"	PF 1 1/2"	190	95	57	470	223
KBC 3140	397	245	122,5	PF 1 1/2"	PF 1 1/2"	190	95	57	470	223

Model	G2	H	H1	H2	H3	I	K	K1	K2	KM	KL
KBC 3060	141	162	290	333.5	315	97	393	414	448	357	750
KBC 3080	141	162	290	333.5	315	97	393	414	448	395	788
KBC 3100	230	162	295	336	327	139	521	535	565	377	878
KBC 3140	230	162	295	336	327	139	521	535	565	417	918

Rotary Vane Pump - vacuum, pressure and combi

91 94 150.... KBV only

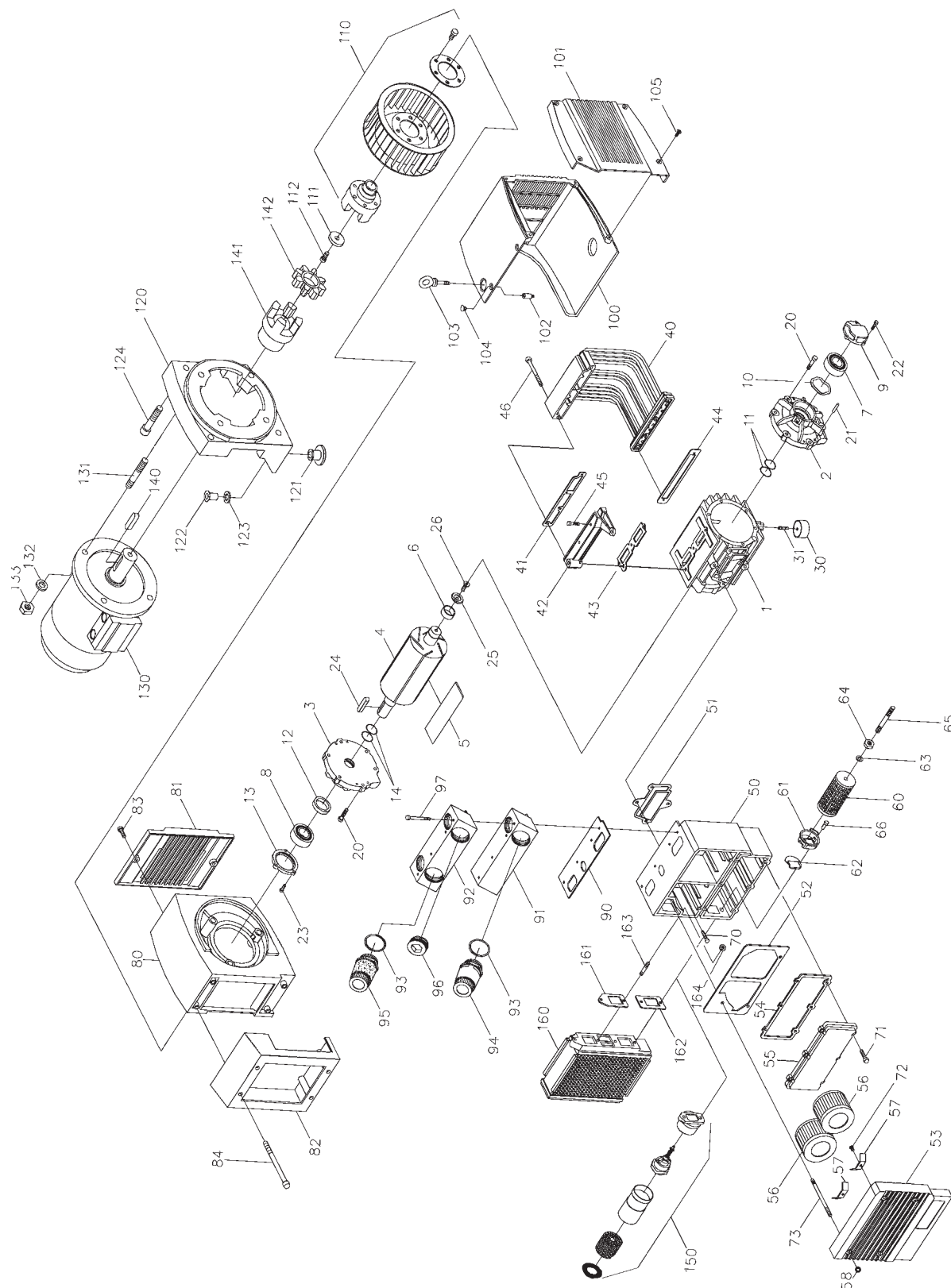
92 95 160 161 162 163..... KBP only

KBP has a pressure relief valve which is set for max. pressure (full engine load).

This calibration must not be adjusted.

KBP 3060/3080 has a cooler for reduction on the temperature of the outlet air.

The drawing shows KBV/KBP 3060



Article no.	Description	No.
01	Cylinder housing	1
02	A-shield	1
03	B-shield	1
04	Rotor	1
05 (KBV, KBP)	Carbon vanes	4
05 (KBC)	Carbon vanes	7
06 & 07	Front bearing	1
08	B-bearing	1
09	Bearing cover (front / A-side)	1
10	Wave washer	1
11	Sealing	2
12	Shaft sealing	1
13	Bearing cover (B-side)	1
14	Sealing	2
21	Straight pin	2
24	Key	1
25	Washer	1
30	Shock absorber	1
31	Threaded pin	1
40	Cooler	1
41	Sealing	1
42	Base for radiator cap	1
43	Sealing	1
44	Sealing	1
50	Filter housing	1
51	Sealing	1
52	Sealing	1
53	Filter cover	1
54	Sealing	1
55	Cyclone	1
56	Filter cartridge	1
57	Spring leaf	1
58	Knurled nut	4
60	Filter cartridge	1
61	Filter clamp	1
62	Sealing	1
63	Disc	1
64	Hexagon socket screw	1
65	Threaded rod	1
73	Threaded rod	1
80	Flange	1
81	Protection hood	1
82	Protection hood	1
90	Sealing	1
91 (KBV3060, KBV3080)	Junction	1

Article no.	Description	No.
2 (KBP3060, KBP3080)	Junction	1
93	O-ring	1
94 (KBV3060, KBV3080)	Vacuum regulating valve	1
95 (KBP3060, KBP3080)	Pressure relief valve	1
96	Locking nut	1
100	Covering hood	1
101	Front cover	1
102	Shock absorber	2
103	Ring unit	1
104	Screw	2
110	Coupling with fan	1
111	Washer	1
120	Flange	1
121	Rubber bushing	2
122	Pipe rivet	2
123	Washer	2
130	Motor	1
131	Threaded stud	4
140	Key	1
141	Coupling hub	1
142	Coupling element	1
150 (KBV3060, KBV3080)	Blow-off valve	1
160 (KBP3060, KBP3080)	Cooler	1
161 (KBP3060, KBP3080)	Gasket	1
162 (KBP3060, KBP3080)	Gasket	1
163 (KBP3060, KBP3080)	Threaded stud	2

Replacement of parts and extraordinary maintenance of the vacuum pump must be carried out by authorised dealer and by authorised personnel only. If maintenance is carried out in another way than prescribed the warranty stops and the manufacturer will disclaim any responsibility for defects and personal injury related to unauthorized repair of the product. Do always order spare parts from your authorized dealer and remember to state type of model, the name of the spare part as well as its spare part number.

Rotary Vane Pump - vacuum, pressure and combi

91 94 150.... KBV only

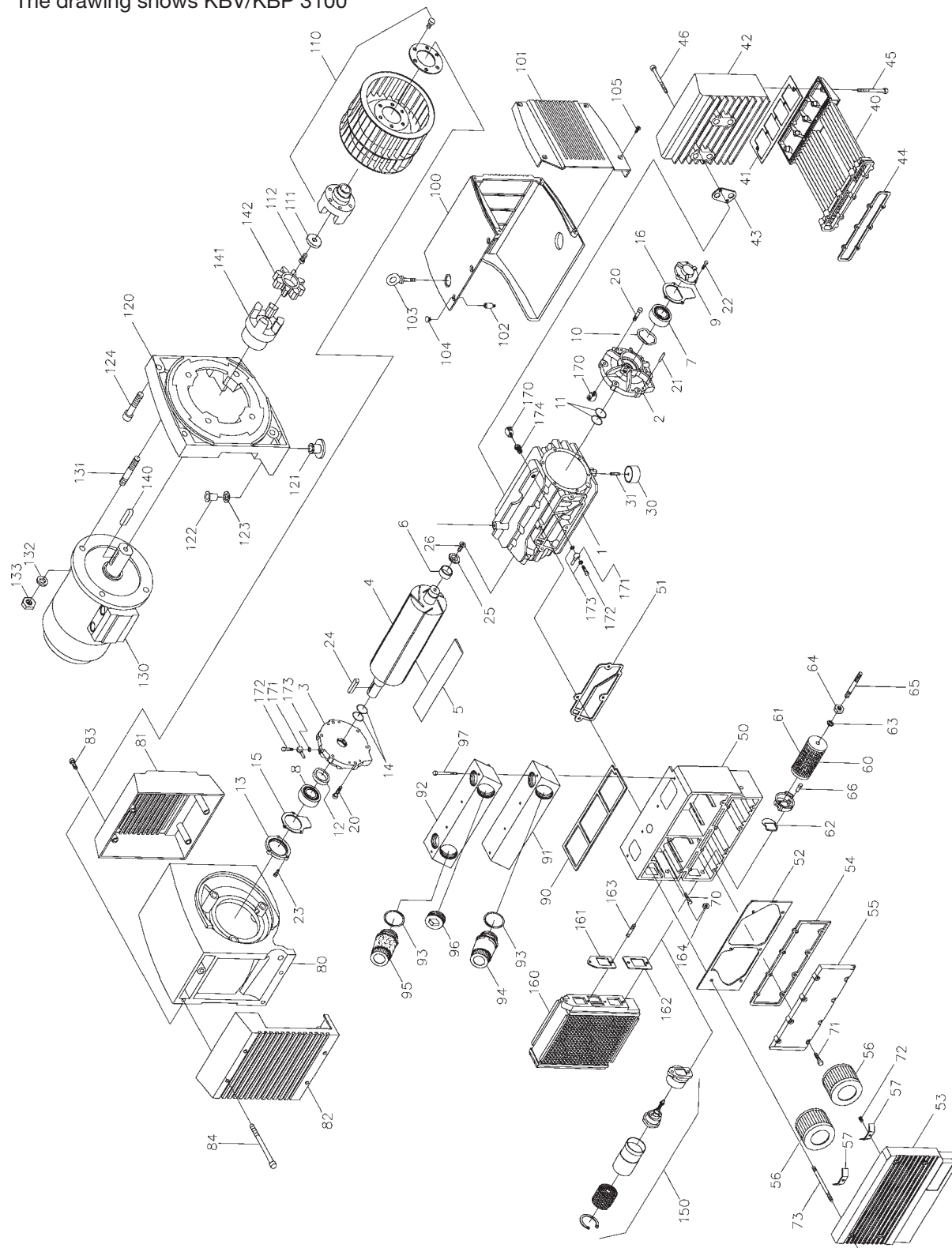
92 95 160 161 162 163..... KBP only

KBP has a pressure relief valve which is set for max. pressure (full engine load).

This calibration must not be adjusted.

KBP 3100/3140 has a cooler for reduction on the temperature of the outlet air.

The drawing shows KBV/KBP 3100



Article no.	Description	No.
01	Cylinder housing	1
02	A-shield	1
03	B-shield	1
04	Rotor	1
05 (KBP, KBV)	Carbon vanes	4
05 (KBC)	Carbon vanes	7
06 & 07	Front bearing	1
08	B-bearing	1
09	Bearing cover (front / A-side)	1
10	Wave washer	1
11	Sealing	2
12	Shaft sealing	1
13	Bearing cover (B-side)	1
14	Sealing	2
15	Gasket	1
16	Gasket	1
21	Straight pin	2
24	Key	1
25	Washer	1
30	Shock absorber	1
31	Threaded pin	1
40	Cooler	1
41	Gasket	1
42	Pressure connection box	1
43	Gasket	1
44	Gasket	1
50	Housing for filter	1
51	Gasket	1
52	Gasket	1
53	Filter cover	1
54	Gasket	1
55	Cyclone	1
56	Filter cartridge	1
57	Spring leaf	1
58	Knurled nut	4
60	Filter cartridge	1
61	Filter clamp	1
62	Gasket	1
63	Disc	1
64	Hexagon socket screw	1
65	Threaded stud	1
73	Threaded stud	1
80	Flange	1
81	Protection hood	1
82	Protection hood	1

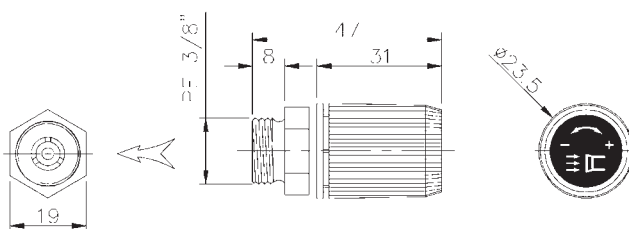
Article no.	Description	No.
90	Gasket	1
91 (KBV3100, KBV3140)	Junction	1
92 (KBP3100, KBP3140)	Junction	1
93	O-ring	1
94 (KBV3100, KBV3140)	Vacuum regulating valve	1
95 (KBP3100, KBP3140)	Pressure relief valve	1
96	Locking nut	1
100	Covering hood	1
101	Cover	1
102	Shock absorber	2
103	Ring unit	1
104	Screw	2
110	Coupling with fan	1
111	Washer	1
120	Flange	1
121	Rubber bushing	2
122	Pipe rivet	2
123	Washer	2
130	Motor	1
131	Threaded stud	4
140	Key	1
141	Coupling hub	1
142	Coupling element	1
150 (KBV3100, KBV3140)	Blow-off valve	1
160 (KBP3100, KBP3140)	Cooler	1
161 (KBP3100, KBP3140)	Gasket	1
162 (KBP3100, KBP3140)	Gasket	1
163 (KBP3100, KBP3140)	Threaded stud	2
170	Lubricator	2
171	Lubricator pipe	1
172	Hole clamping screw	2
173	O-ring	3
174	Connecting screw	1

Replacement of parts and extraordinary maintenance of the vacuum pump must be carried out by authorised dealer and by authorised personnel only. If maintenance is carried out in another way than prescribed the warranty stops and the manufacturer will disclaim any responsibility for defects and personal injury related to unauthorized repair of the product. Do always order spare parts from your authorized dealer and remember to state type of model, the name of the spare part as well as its spare part number.

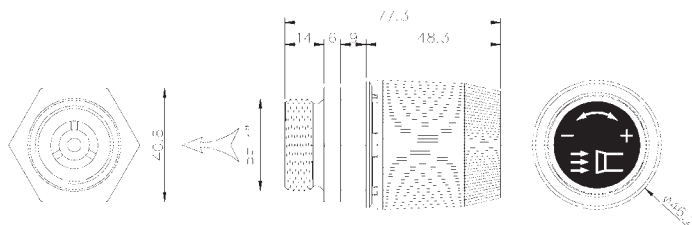
Vacuum reduction valve



KBV 404-408



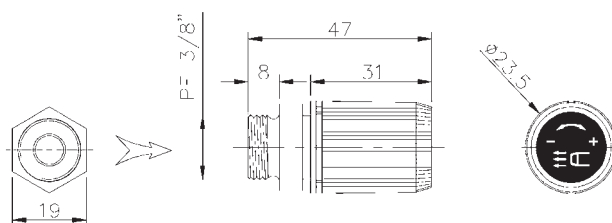
KBV 410-440



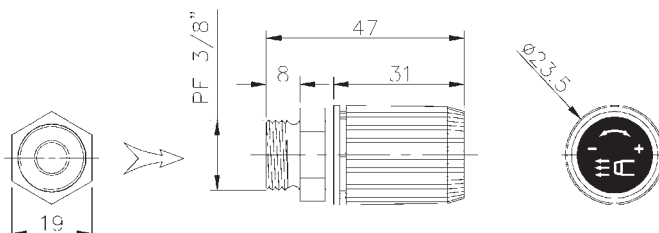
Pressure relief valve



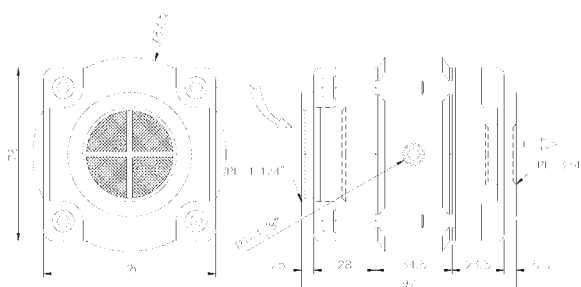
KBP 404-408



KBP 410-440



Check valve



By vacuum (or pressure) close to or above the value of the stamp plate a vacuum-pressure relief valve must be mounted to protect the motor against overload.

Fittings and accessories:

- External airfilter. For extension of life of suction filter in very dusty environments.
- Vacuum reduction valve protects against overload. (KBV only)
- Pressure relief valve protects against overload. (KBP only))
- Check valve. For protection against loss of pressure/vacuum in case the system must be stopped. In case piping layout exceeding 5 meters we recommend mounting a check valve. If the pump is switched off air can drift back into the suction valve. This can be prevented by using a check valve or solenoid valve.

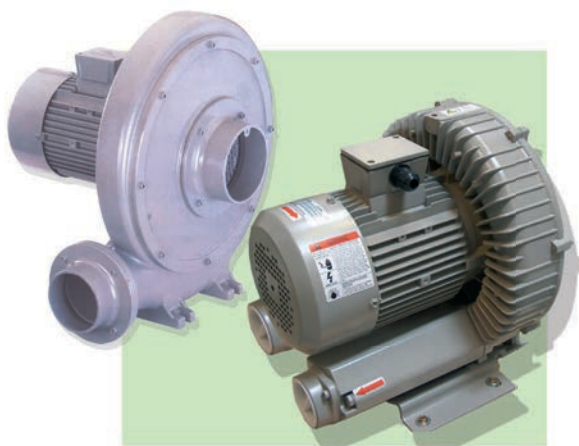
Side channel blowers and Turboblowers

Download catalogue from www.klee.dk from the group Side Channel Blowers and Turboblowers.

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KLEE blower®

Side Channel Blowers & Turboblowers



BRD. KLEE ENGINEERING & TRADING COMPANY
Phone +45 4386 8333 Fax +45 4386 8388 e-mail: klee@klee.dk www.klee.dk

Roots blowers

Download catalogue from www.klee.dk from the group Roots Blowers.

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KLEE blower®

Roots Blowers



BRD. KLEE ENGINEERING & TRADING COMPANY
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Standard Components:

Handles and knobs - Machine Parts - Accessories for hydraulics
Wheels - Magnets - Lubrication nipples - Pneumatic and fluid control
Connectors - Angle joints - Fork joints - Circlip rings - Shims
Slotted pins - Spring pins - Keys - Woodruff keys
Wave washers - Disc springs - Tolerance rings
Hose clamps - Clamps and fittings - Tube connections
Klee-coils and threaded inserts - Vibration dampers
Oil seals - O rings - Cable ties - Caps and plugs

Open Transmissions:

Rod ends - Spherical plain bearings - Bearings
Flanged bearings - Pillow blocks - Stainless bearings
Ball joints - Cross joints - cardan joints
Spline shafts - Shaft couplings - High flexible couplings - Torque couplings - Torque limiters
Multibeam couplings - Safety couplings - Shaft/hub locking devices
V-belts - Timing belts - Open timing belts - Polyurethane timing belts
V-belt Pulleys - Timing belt pulleys - Chains - Sprockets
TriFlow Lubrication

Linear Motion Technology:

Gas springs - Stainless gas springs - Gas dampers
Linear bushings - Telescopic slides - Actuators
Column guides - Slide systemer - Adjustable slide units
In-line Actuators

Gears:

Worm gears - Helical gears - Bevel helical gears
Angle gears - Flat gears - Shaft gears - Industrial gears
Planetary gears - Variators - Brakes

Drives & Motors:

Frequency inverters - Softstarters - DC-brakes
DC controls - Encoders - Flanged encoders
AC-motors - DC-motors - Small geared motors - High frequency motors
High efficiency motors - Vibration motors - Circular saw motors
Side channel blowers - Turbo blowers - Rotary vane pumps - Roots blowers
Submersible pumps - In-line actuators