



# VAKUUM BOHEMIA

vacuum pumps, vacuum systems, blowers, compressors, repairs

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## *ROOTSVAC*

# *ROOTS VACUUM PUMPS*



97/23/EC

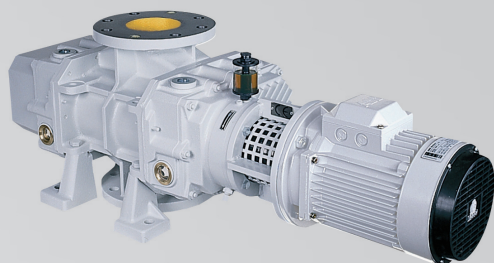
## ROOTS VACUUM PUMPS



# ROOTSVAC

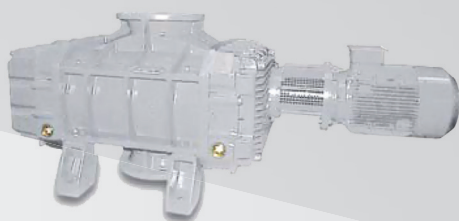
## OVERVIEW OF PRODUCTS

### RootsVac RV up to 3000 m<sup>3</sup>/h:



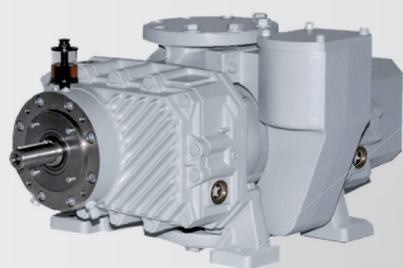
Model	Pumping speed [m <sup>3</sup> /h]	Max. pressure difference [mbar]	Power [kW]	Connection [DN]	Weight [kg]
RV 0200	200	130	0.75	50	73
RV 0280	280	80	1.1	80	85
RV 0500	500	80	2.2	100	130
RV 0750	750	80	3	100	158
RV 1000	1 000	80	4	100	240
RV 1500	1500	70	4	150	270
RV 2000	2 000	50	5.5	150	360
RV 3000	3 000	40	7.5	150	400

### RootsVac RV up to 16 000 m<sup>3</sup>/h:



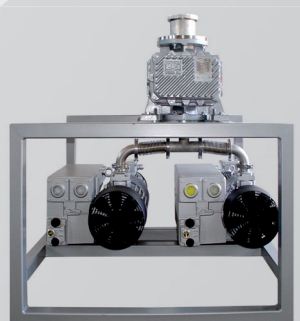
Model	Pumping speed [m <sup>3</sup> /h]	Max. pressure difference [mbar]	Power [kW]	Connection [DN]	Weight [kg]
RV 3750	3 750	50	11	200	580
RV 5450	5 450	66	15	200	750
RV 7300	7 300	50	18.5	250	850
RV 8000	8 000	50	22	300	1 600
RV 9500	9 500	40	22	300	1 700
RV 11500	11 500	40	30	300	2 500
RV 15500	15 500	30	30	350	2 900

### RootsVac RVB, bypass:



Model	Pumping speed [m <sup>3</sup> /h]	Max. pressure difference [mbar]	Power [kW]	Connection [DN]	Weight [kg]
RVB 0500	500	60	2.2	100	156
RVB 1000	1 000	60	4	100	260
RVB 2000	2 000	60	5.5	100	402

### Pump stands:



The pumping speed of pump stands ranges from 200 m<sup>3</sup>/h to 16,000 m<sup>3</sup>/h.

VAKUUM BOHEMIA constructs pump stands and vacuum systems using roots vacuum pumps based on specifications, application and requirements of the client. The most common is the combination with an oil lubricated rotary vacuum pump, as well as with liquid ring vacuum pump, claw vacuum pump, screw vacuum pump, piston vacuum pump or combination of more roots vacuum pumps.



# ROOTSVAC

## APPLICATION AND PRINCIPLE

### Applications:

Industrial RootsVac vacuum pumps are suitable for industries that require achievable pressure up to  $1 \times 10^{-3}$  mbar<sub>(abs)</sub>. Roots vacuum pumps are used as vacuum boosters for increased pumping speed. Vacuum pumps increase the pumping speed and max. vacuum and are used in a range from 50 mbar to 0.001 mbar.

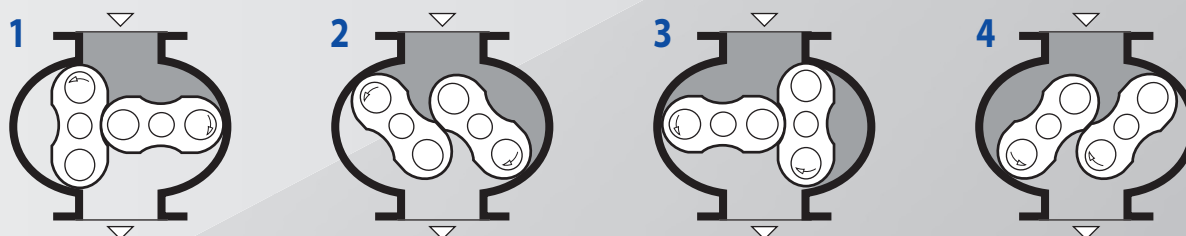
Vacuum pumps are used with a backing vacuum pump. The backing vacuum pump is usually an oil lubricated rotary vacuum pump, vacuum pump with a rocking piston, claw vacuum pump or liquid ring vacuum pump.

Applications of RootsVac vacuum pumps:

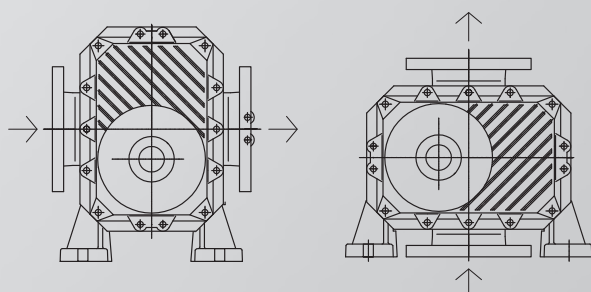
- Deaeration, metal coating
- Impregnation
- Central vacuum for packaging
- Vacuum soldering
- Vacuum drying
- Lyophilization
- Distillation
- Injection

### Functional principles:

Two double-ended pistons are rotating in the cylinder. During rotation the volume on the suction side increases. The spaces is then sealed and transported towards the exhaust.



### Orientation:



**TYPE A**

**TYPE B**

The air flow direction through the blower may be oriented horizontally or vertically.

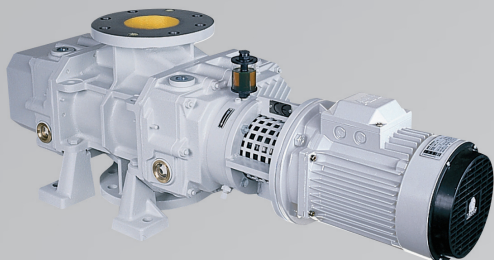
Horizontal air flow is referred to as TYPE A and vertical air flow as TYPE B.



# RV 0200 - RV 3000

## TECHNICAL DATA

### RootsVac RV (up to 3000 m<sup>3</sup>/h):

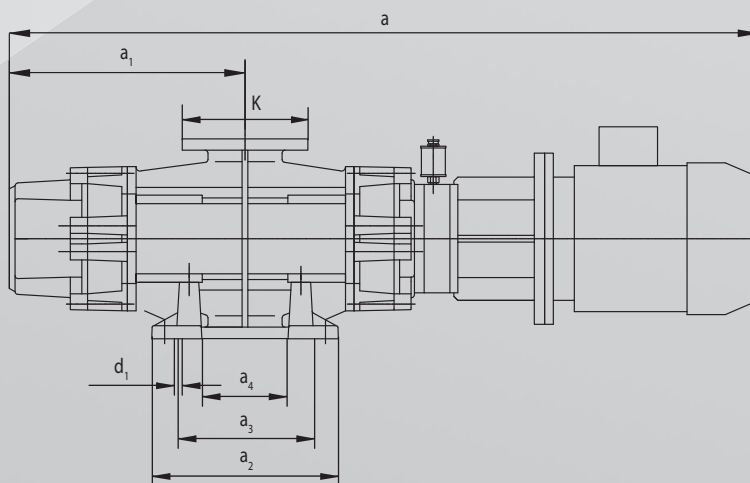
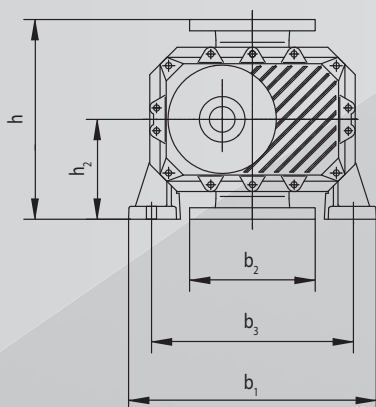


The RootsVac RV vacuum pump is ideal for long-term operation in low pressure. The vacuum pump is used in combination with a backing vacuum pump with a pumping speed from 20 to 2000 m<sup>3</sup>/h. Vacuum boosters may be cooled by air or by water. Vacuum pumps are delivered including oil charge and motor. Two suction/exhaust orientations are available (horizontal, vertical).

### Technical data:

Model	RV 0200	RV 0280	RV 0500	RV 0750	RV 1000	RV 1500	RV 2000	RV 3000
Pumping speed (m <sup>3</sup> /h)	200	280	500	750	1 000	1 500	2 000	3 000
Max. pressure difference (mbar)	130	80	80	80	80	70	50	40
Motor (kW)	0,75	1.1	2,2	3	4	4	5.5	7.5
Weight (kg)	73	85	130	158	240	270	360	400

### Dimensions in mm:



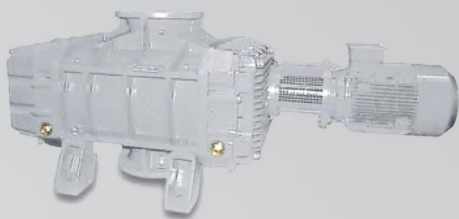
Model	DN	a	a <sub>1</sub>	a <sub>2</sub>	a <sub>3</sub>	a <sub>4</sub>	b <sub>1</sub>	b <sub>2</sub>	b <sub>3</sub>	d <sub>1</sub>	h	h <sub>2</sub>	K
RV 0200	50	746	220	148	118	12	313	193	253	14	276	138	165
RV 0280	80	786	240	188	158	52	313	193	253	14	276	138	200
RV 0500	100	949	290	270	230	116	360	220	290	18	320	160	220
RV 0750	100	1084	342	370	330	216	360	220	290	18	320	160	220
RV 1000	100	1126	342	326	282	150	434	274	354	18	350	175	220
RV 1500	150	1238	398	438	394	262	434	274	354	18	350	175	285
RV 2000	150	1288	396	412	362	222	534	354	444	24	400	200	285
RV 3000	150	1428	466	552	502	362	534	354	444	24	400	200	285



# RV 3750 - RV 15 000

## TECHNICAL DATA

### RootsVac RV (up to 16 000 m<sup>3</sup>/h):

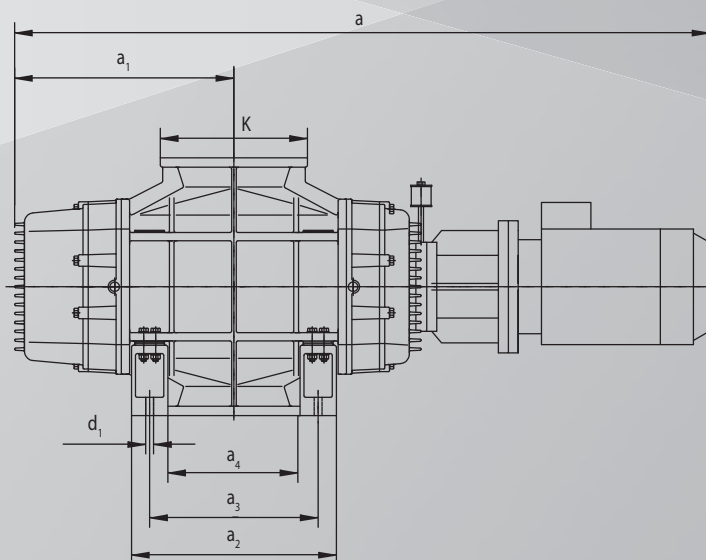
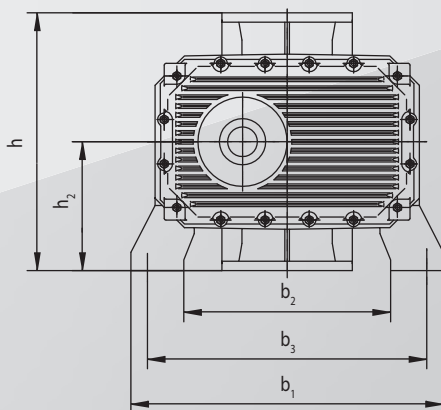


The RootsVac RV vacuum pump is ideal for long-term operation in low pressure. The vacuum pump is used in combination with a backing vacuum pump with a pumping speed from 300 to 7 500 m<sup>3</sup>/h. The vacuum pump may be cooled by air or by water. Vacuum pumps are delivered including oil charge and motor. Two suction/exhaust orientations are available (horizontal, vertical).

### Technical data:

Model	RV 3750	RV 5450	RV 7300	RV 8000	RV 9500	RV 11500	RV 15500
Pumping speed (m <sup>3</sup> /h)	3 750	5 450	7 300	8 000	9 500	11 500	15 500
Max. pressure difference (mbar)	50	65	50	50	40	40	30
Motor (kW)	11	15	18.5	22	22	30	30
Weight (kg)	580	750	850	1 600	1 700	2 500	2 900

### Dimensions in mm:



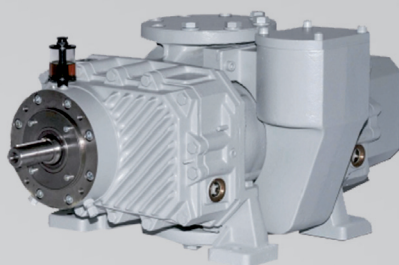
Model	DN	a	a <sub>1</sub>	a <sub>2</sub>	a <sub>3</sub>	a <sub>4</sub>	b <sub>1</sub>	b <sub>2</sub>	b <sub>3</sub>	d <sub>1</sub>	h	h <sub>2</sub>	K
RV 3750	200	1582	470	364	288	213	592	404	528	24	500	250	340
RV 5450	200	1553	464	330	249	169	728	488	638	24	630	315	340
RV 7300	250	1682	528	458	378	298	728	488	638	24	630	315	395
RV 8000	300	2105	664	620	510	400	946	626	846	24	780	390	445
RV 9500	300	2235	729	750	640	530	946	626	846	24	780	390	445
RV 11500	300	2339	717	576	450	325	1147	767	1057	27	1000	500	445
RV 15500	350	2534	829	800	674	550	1147	767	1057	27	1000	500	505





# RVB 0500 - RVB 2000, BY PASS TECHNICAL DATA

## RootsVac RVB, bypass (up to 2000 m<sup>3</sup>/h):

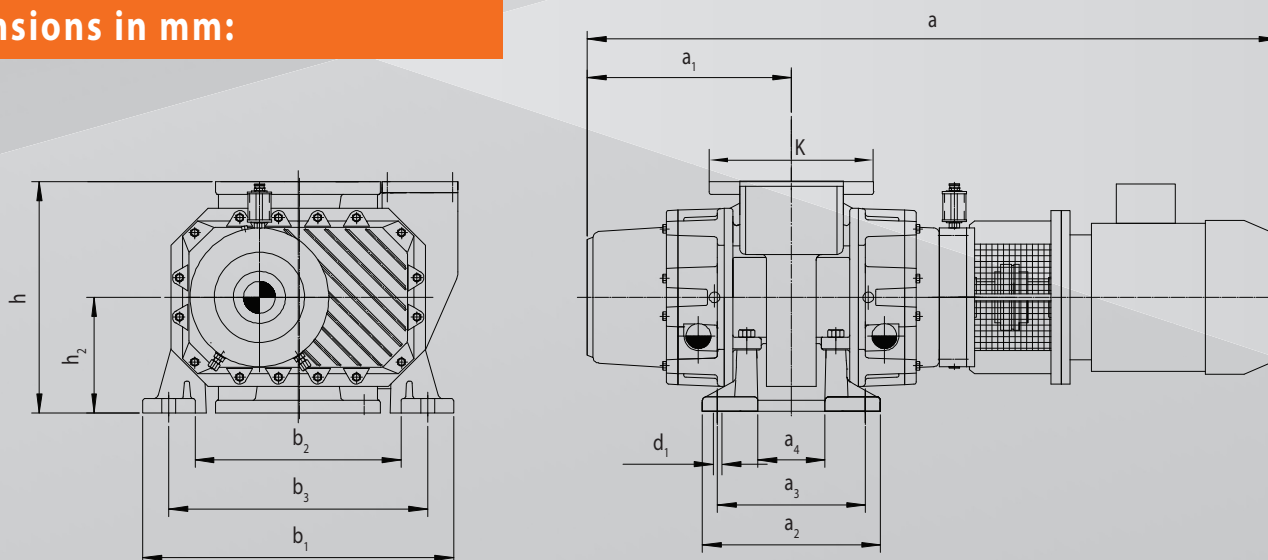


RootsVac RVB vacuum pumps are an ideal choice of boosters during evacuation of vacuum chambers. RootsVac RVB vacuum pumps may be cooled by air or water. Vacuum pumps are delivered including oil charge and motor. RootsVac RVB vacuum pumps include an integrated BYPASS and are suitable for operation with frequent start/stop.

## Technical data:

Model	RVB 0500	RVB 1000	RVB 2000
Pumping speed (m <sup>3</sup> /h)	500	1 000	2 000
Max. pressure difference (mbar)	60	60	60
Motor (kW)	2.2	4	5.5
Weight (kg)	156	260	402

## Dimensions in mm:

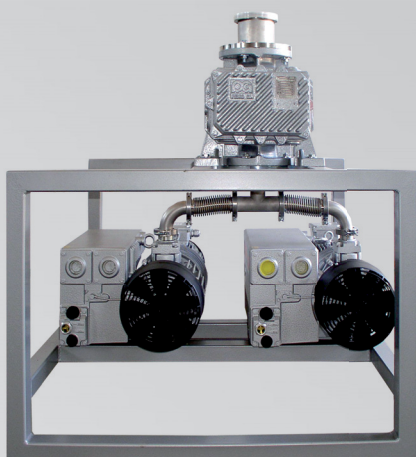


Model	DN	a	a <sub>1</sub>	a <sub>2</sub>	a <sub>3</sub>	a <sub>4</sub>	b <sub>1</sub>	b <sub>2</sub>	b <sub>3</sub>	d <sub>1</sub>	h	h <sub>2</sub>	K
RVB 0500	100	932	292	270	230	120	360	220	290	18	320	160	220
RVB 1000	100	1 109	357	326	282	155	426	266	354	19	350	175	220
RVB 2000	150	1 217	396	414	362	220	522	342	445	24	400	200	285



# ROOTSVAC SETS

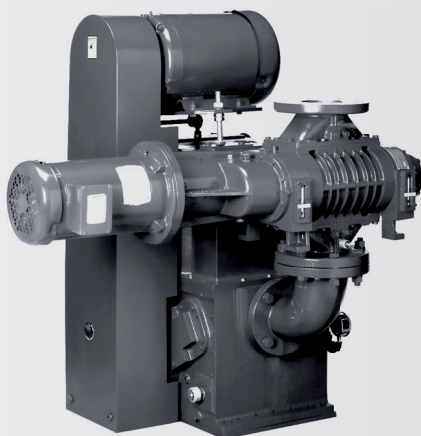
## Sets with oil lubricated vacuum pumps:



Systems with single stage oil lubricated vacuum pumps reach a maximum vacuum of 0.01 mbar.

Systems with two stage oil lubricated vacuum pumps reach a maximum vacuum of 0.0001 mbar. VAKUUM BOHEMIA designs and supplies vacuum systems that combine oil lubricated rotary vacuum pumps and boosting roots vacuum pumps. The delivery can consist of only a pump stand or of a complete system including the control switchboard, measuring and valves.

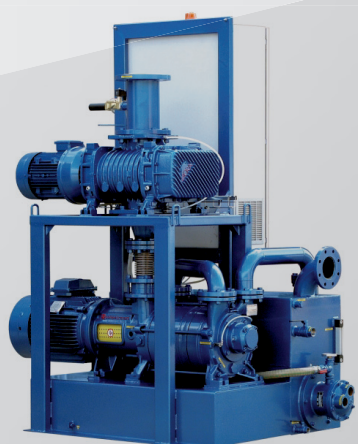
## Sets with piston vacuum pumps:



Systems with piston vacuum pumps are suitable for applications with a higher content of impurities in the sucked medium. The system reaches a maximum vacuum of 0.0001 mbar.

VAKUUM BOHEMIA designs and supplies vacuum systems that combine piston vacuum pumps and boosting roots vacuum pumps. The delivery can consist of only a pump stand or of a complete system including the control switchboard, measuring and valves.

## Sets with liquid ring vacuum pumps:



Systems with liquid ring vacuum pumps reach a maximum vacuum of 3 mbar.

VAKUUM BOHEMIA designs and supplies vacuum systems that combine liquid ring vacuum pumps and boosting Roots vacuum pumps.

Liquid ring vacuum pumps may be designed as flow pumps or with a closed circulation. The delivery can consist of only a pump stand or of a complete system including the control switchboard, measuring and valves.



# SERVICES

## Service at the customer:



The team of VAKUUM BOHEMIA provides on-site service for all common types of industrial vacuum pumps. These include roots vacuum pumps, oil lubricated rotary vacuum pumps, liquid ring vacuum pumps, claw vacuum pumps, screw vacuum pumps, vacuum pumps with a rocking piston, roots blowers and side-channel vacuum pumps.

VAKUUM BOHEMIA also provides guarantee and post-guarantee repairs of all our offered vacuum pumps and systems. Spare parts for maintenance and common repairs are in stock.

Delivery of every complex system of course includes training of the operating staff and instructions for maintenance.

## Other services:

VAKUUM BOHEMIA offers the rental of vacuum pumps and offers refurbished vacuum pumps. VAKUUM BOHEMIA has many years of experience with designing vacuum systems, production of standardized vacuum systems, as well as unique single-purpose machines. Our solutions are based on the individual requirements of each application and the needs of our clients.

## Service center in Jihlava



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