

**ROBUSCH<sup>®</sup>**

by Gardner Denver



# High Vacuum Blowers





# Wide Range of Vacuums For Every Need

Robuschi has been developing pressure and vacuum solutions since 1941 from their manufacturing facilities in Parma (Italy).

A world leader in blowers and pumps for various industries, we are committed to playing a vital role in our communities by engineering efficient products that save energy and preserve the environment.

Our equipment, systems and services are dedicated to help our customers optimise the performance of their air compression and vacuuming processes.

Our vacuum range has been developed in line with our customers' exacting requirements. It covers a wide array of technologies, including lobe, screw, and liquid ring pumps to achieve up to 0.001 mbar(a) when operating as a booster.

The simplicity, robustness, efficiency, and cost-effectiveness of our blowers and pumps make our vacuum range the smart choice for your application.

## RBS/AV Series

The RBS/AV series are rotary three lobe blowers used in vacuum installations as boosters in combination with primary vacuum pumps. They are used for applications where the final pressure request by the system is lower than 33 mbar absolute.

Typically, these applications utilize liquid ring vacuum pumps (Robuschi RVS series), screw pumps, claw pumps, vane pumps or piston pumps as the primary vacuum system. The typical configuration of this system is vertical with the

RBS/AV positioned up and the vacuum pump positioned down. Both are directly connected. In addition, it is fairly common to have a multiple stage system with two or more RBS/AV high vacuum blowers if the suction pressure or the capacity requested exceeds the maximum values of the total RBS/AV's range.

### Benefits at a glance

- vacuum from 0.001 to 20 mbar(a)
- Suction capacity from 300 to 9,400 m<sup>3</sup>/h
- Suction of gases and vapours
- Lack of sliding parts, no wear
- Safety in operation
- Minimum maintenance and easy servicing
- ATEX 2 version available



# Distinctive Features

The RBS/AV series are composed of two conjugate rotors which rotate with tight clearances (hundredth of millimetre) in all positions inside a specially designed casing. This assures that gas is sealed within the casing without contact between the parts. The rotors are synchronized using high precision involute toothing, allowing for high rotational speed.

## Robust construction

The seal between the compression chamber and the bearing housings is made with labyrinth seals that prevent any oil aerosol from entering the compression chamber.

The sealing between the compression chamber and the environment is ensured by O-ring seals in the FKM elastomer set between the ground surfaces.

Robuschi's specialized rotor grinding manufacturing process allows for tight dimensional tolerances.

## Extremely safe

The shaft end sealing is made of two seal rings in the FKM elastomer with the opposite lips lubricated by means of an attached oiler. The oil ring housing can be cooled by water circulation.

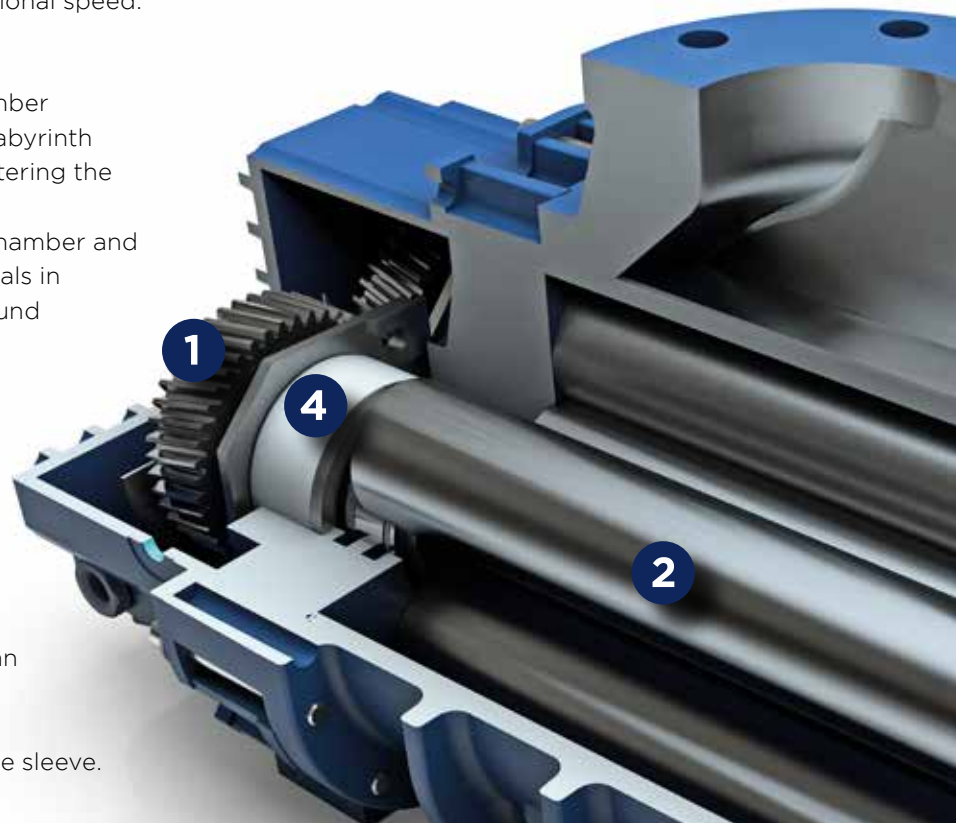
According to specifications, the shaft is protected by a hardened and replaceable sleeve.

## Material accuracy

The accuracy and quality of materials used to build our high power vacuums provide our machines with outstanding performance in all operating conditions.

The body is composed of cast iron, while the rotors use nodular cast iron. If the vacuum is used for corrosive gases or vapours, the parts that come in contact with them can be coated in a stainless nickel alloy.

Different systems seal like mechanical seal or PTFE seals for high performances.



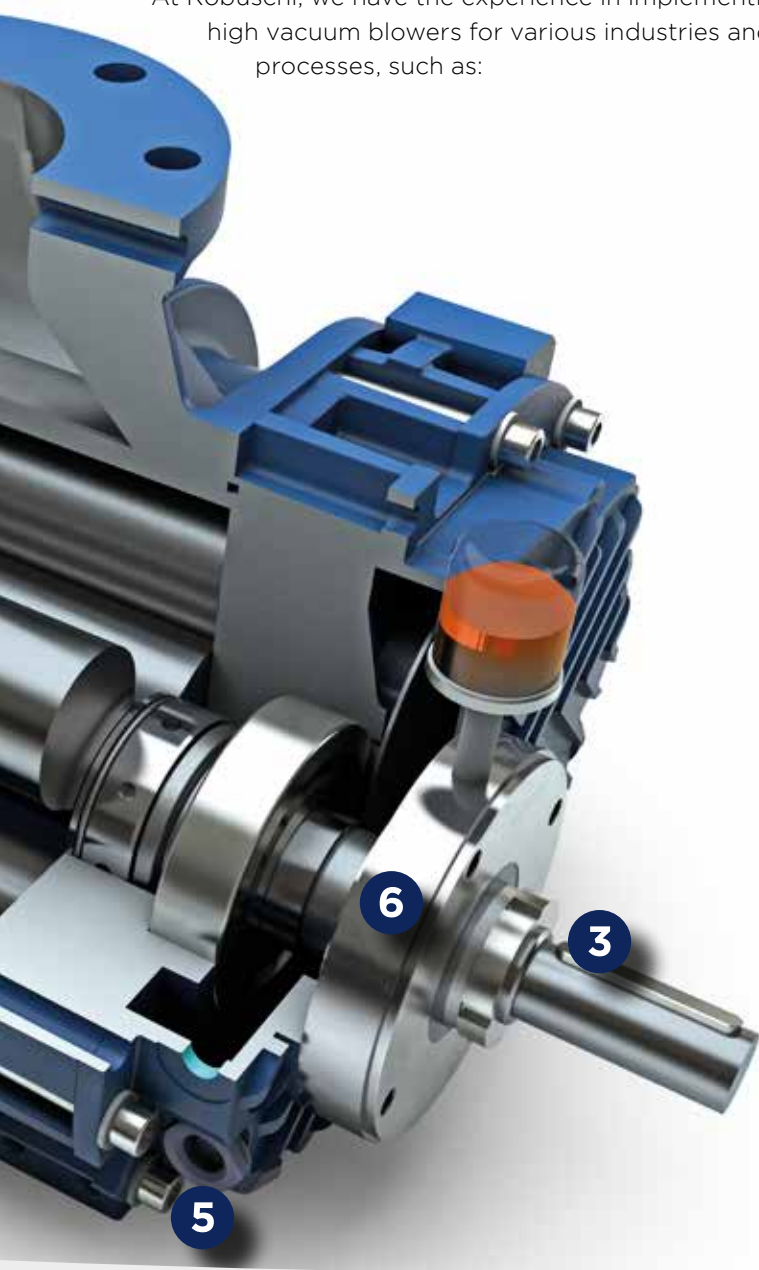
## Benefits at a glance

1. Splash-lubricated helical tooth synchronized gears for optimum rotor timing
2. High quality lobe profile rotors controlled by three-dimensional instruments for top volumetric efficiency
3. Shafts and robust design for reliable operation
4. Long life steel cage bearings
5. Pyrex mirrors for clear oil inspection
6. Special sealing system with double sealing with oil and water cooling chamber



# For Diverse Application Requirements

The RBS/AV series surpasses the most extreme durability tests, thereby meeting the requirements of several industrial high-vacuum applications. At Robuschi, we have the experience in implementing high vacuum blowers for various industries and processes, such as:



### Food Industry

- Packaging
- Vacuum filtration
- Evaporation, drying, distillation

### Automotive, Electronics, Semi-conductors, Optical Industry

- Polymerisation
- Ionisation
- Metallization

### Metallurgy

- Degassing

### Pharma & Chemical Industry

- Vacuum filtration
- Evaporation, drying, distillation

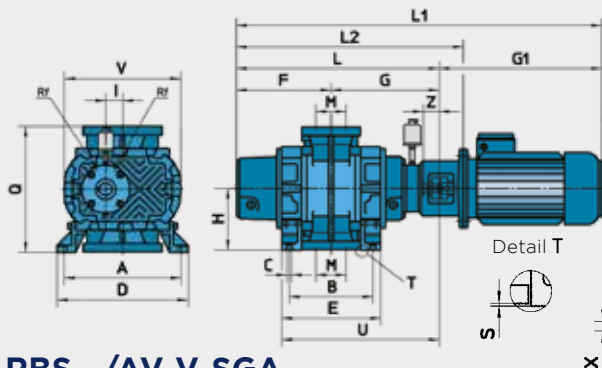
### Thermoelectric Plant, Nuclear & Aerospace Industry

- Condenser degassing

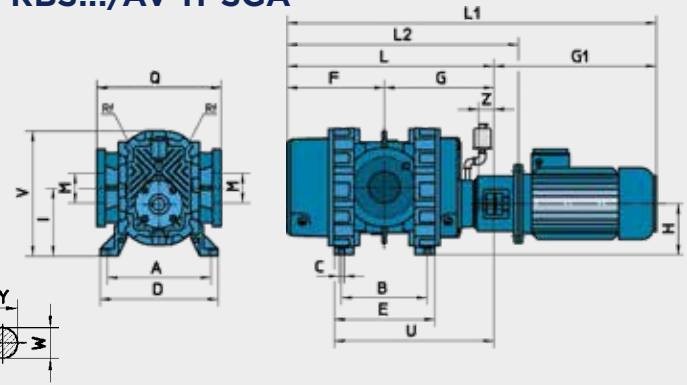
# Technical Data

## Overall Dimensions

### RBS.../AV-V-SGA



### RBS.../AV-H-SGA



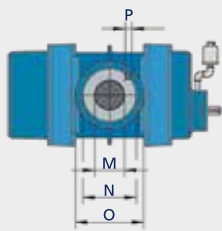
### RBS.../AV-V-SGA

Type size (mm)	A	B	C	D	E	F	G	G1	H <sub>mm-0.5</sub>	I	L	L1	L2	M	Q	S	U	V	W	Z	X	Y	KW	Motor	Weight kg
35	295	215	12	331	251	243	266	299	160	42.5	509	806	561	80	319	1	391	295	24	40	8	27	1.5	90/S2	98
45	295	275	12	331	311	273	296	324	160	42.5	569	893	621	80	319	1	451	295	24	40	8	27	2.2	90/L2	111
65	340	341	14	385	387	340	361	410	185	53.5	701	1111	768	150	369	1	555	345	28	60	8	31	4	112/M2	185
85	370	431	18	420	482	405	431	450	225	67.5	836	1286	924	150	449	1	671	415	32	80	10	35	5.5	132/S2	295
105	430	501	18	486	557	463	483	450	265	84	946	1396	1060	200	529	1	771	522	38	80	10	41	7.5	132/S2	550
125	550	590	22	640	646	528	594	450	300	106	1122	1572	1205	250	599	1	917	618	42	110	12	45	7.5	132/S2	656
145	680	747	26	770	805	641	704	755	340	135	1345	2100	1463	300	719	1	1098	790	55	110	16	59	18.5	180/M4	1160

### RBS.../AV-H-SGA

Type size (mm)	A	B	C	D	E	F	G	G1	H <sub>mm-0.5</sub>	I	L	L1	L2	M	Q	S	U	V	W	Z	X	Y	KW	Motor	Weight kg
35	266	215	12	302	251	243	266	299	132	175	509	808	561	80	318	1	391	320	24	40	8	27	1.5	90/S2	96
45	266	275	12	302	311	273	296	324	132	175	569	893	621	80	318	1	451	320	24	40	8	27	2.2	90/L2	109
65	283	341	14	328	387	340	361	410	160	213	701	1111	768	150	368	1	555	385	28	60	8	31	4	112/M2	182
85	325	431	18	375	482	405	431	450	180	247	836	1286	924	150	448	1	671	455	32	80	10	35	5.5	132/S2	291
105	392	501	18	448	557	463	483	450	200	284	946	1396	1060	200	528	1	771	545	38	80	10	41	7.5	132/S2	546
125	435	590	22	526	646	528	594	450	250	356	1122	1572	1205	250	598	1	917	670	42	110	12	45	7.5	132/S2	650
145	570	747	26	640	805	641	704	755	280	135	1345	2100	1463	300	718	1	1098	815	55	110	16	59	18.5	180/M4	1152

## Drilling for flat flanges PN10 UNI 2236



### PN10 UNI 2236

M - DN	N	O	P	HOLES	
80	mm	160	200	18	4
100	mm	180	230	18	8
150	mm	240	285	23	8
200	mm	296	340	23	8
250	mm	350	405	24	12
300	mm	400	475	24	12

## Performances

RBS/AV Blower size	BLOWER THEORETICAL SUCTION CAPACITY m <sup>3</sup> /h		DIFFERENTIAL PRESSURE MAX mbar(a)	MOTOR POWER kW
	3000 RPM	3600 RPM		
35	360	430	130	1.5
45	500	600	140	2.2
65	970	1165	90	4.0
85	2125	2550	80	5.5
105	3815	4575	55	7.5
125	7380	8855	45	11
145	7833	9400	45	18.5

## **Maximum uptime. Extending performance.**

We provide a range of services to ensure our customers' machines are well maintained to deliver maximum performance.

We offer preventative and planned maintenance programs, genuine parts, on-site service, professional maintenance and efficient training.

Within our service portfolio, you will find different options and services needed for optimal performance, maximum uptime and operating efficiency from your Robuschi equipment.

Visit us:

[www.robuschi.com](http://www.robuschi.com)

[www.gardnerdenver.com/Industrials](http://www.gardnerdenver.com/Industrials)

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