

RBS/AV High Vacuum Blowers



ROBUSCHI®

by Gardner Denver

The **ROBUSCHI RBS/AV series blowers** are positive displacement blowers used for vacuum installation as booster in combination with primary vacuum pumps when operating at their lowest pressure limit.

- Vacuum pressure from 0.001 to 20 mbar abs.
- Suction capacity from 300 to 8800 m³/h
- Suction of gases and vapours
- Lack of sliding parts, no wear
- Safe operation and low maintenance

FEATURES

The ROBUSCHI **RBS/AV** series blowers are made of two conjugate rotors which rotate inside a special design casing with tight clearances (hundredth of millimetre) in all position, assuring gas sealing without contact between parts.

The rotors are synchronized by gears with high high precision involute toothing, granting high rotational speed.

Compression chamber sealing

The separation between compression chamber and bearing housings is made with labyrinth seals avoiding atomized oil to enter the compression chamber. The sealing between compression chamber and environment is ensured by seals (O-RINGS) in FKM elastomer set against ground surfaces. The close dimensionai tolerances are obtained thanks to the ROBUSCHI technologies, that provide rotor grinding in the production cycle.

OPERATION

The **RBS/AV** series blowers have to be used in series with a primary vacuum system according to the diagram and they can not be used in the field of pressures higher than 50 mbar absolute (for these applications it is possible to employ the ROBUSCHI **RB-DV** air injection blowers) because of the too high absorbed power as well as rotor and casing overheating.



Shaft-end sealing

The shaft end sealing is made by two seal rings in FKM elastomer with apposite lips, lubricated by a fitted oiler.

The oil ring housing can be cooled by water circulation.

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

Materials

The blowers are made of cast iron with rotors in carbon steel or in nodular cast iron depending on the size.

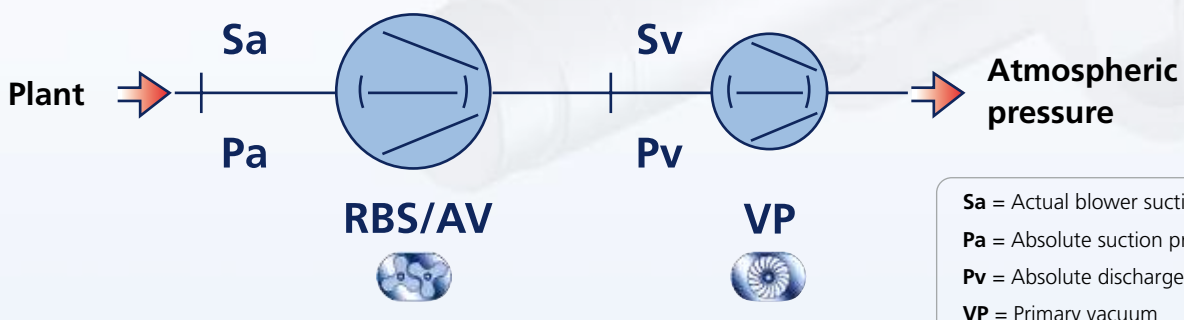
These materials assure good performance at standard operating conditions with gases or vapours.

Besides this, for corrosive gases or vapours pumping, the parts in contact can be coated with a stainless nickel alloy.

Available **RBS/AV in ATEX version on request.**

The **RBS/AV** blower has to be started only after the **VP** primary vacuum system has reduced the absolute pressure of the plant to a value lower than 50 mbar.

ROBUSCHI can supply primary vacuum system with liquid ring vacuum pumps (**RVS** series), reaching capacity up to a 4.200 m³/h (See Robuschi liquid ring vacuum pumps catalogue).



- Sa** = Actual blower suction capacity
- Pa** = Absolute suction pressure
- Pv** = Absolute discharge pressure
- VP** = Primary vacuum

APPLICATION FIELDS

PROCESS	DESCRIPTION	FIELD	Residual pressure (mbar abs)
Several applications	<ul style="list-style-type: none"> lifting transportation fixing packing 	<ul style="list-style-type: none"> food industry vacuum packing 	
Metal production under vacuum	<ul style="list-style-type: none"> melting founding glowing steel degasing dross of iron 	<ul style="list-style-type: none"> steelmill foundry 	
Material combination	<ul style="list-style-type: none"> electro-welding diffusion welding 	<ul style="list-style-type: none"> automotive industry mechanical industry 	
Material separation	<ul style="list-style-type: none"> extraction vacuum-filtration evaporation and freeze drying distillation 	<ul style="list-style-type: none"> food production pharmaceutic industry chemical industry 	
Separation and combination of material	<ul style="list-style-type: none"> drying degasing of electrical isolation material impregnation spilling 	<ul style="list-style-type: none"> mechanical industry electric industry 	
Production and structuring of thin surfaces	<ul style="list-style-type: none"> polimerisation ionisation polarization metallization 	<ul style="list-style-type: none"> automotive industry production of flat screens production of semi conductors optical industry 	
Vessel evacuation	<ul style="list-style-type: none"> condenser degasing nuclear research space simulation 	<ul style="list-style-type: none"> thermoelectric plani nuclear industry aerospace industry 	



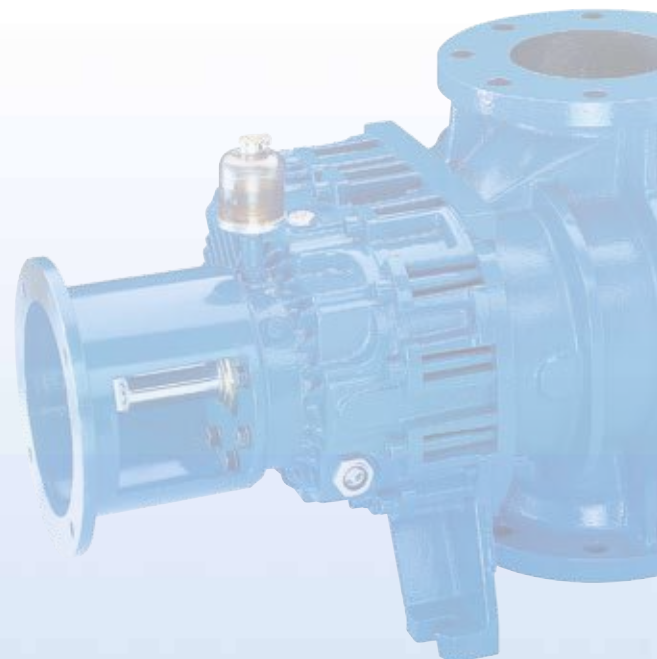
High Vacuum Blowers: ROBUSCHI RBS/AV



VP Liquid ring vacuum pumps: ROBUSCHI RVS

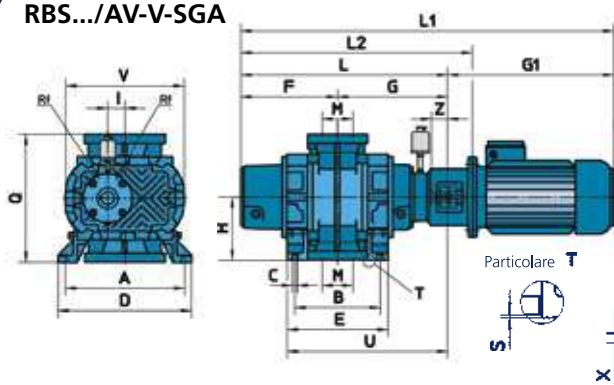
PERFORMANCES

Blower size	BLOWER THEORETICAL SUCTION CAPACITY				DIFFERENTIAL PRESSURE MAX mbar	MOTORPOWER 50 Hz kW
	m³/h	rpm	m³/h	rpm		
35	360	3000	430	3600	130	1.5
45	500	3000	600	3600	140	2.2
65	970	3000	1165	3600	90	4.0
85	2125	3000	2550	3600	80	5.5
105	3815	3000	4575	3600	55	7.5
125	7380	3000	8855	3600	45	11.0
145	7830	1500	9400	1800	45	18.5

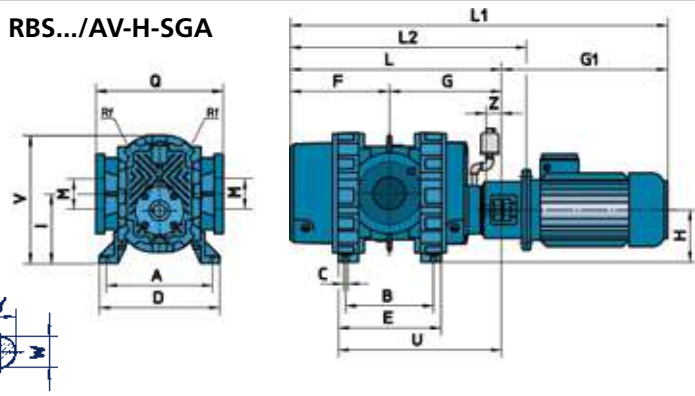


OVERALL DIMENSIONS

RBS.../AV-V-SGA



RBS.../AV-H-SGA



RBS.../AV-V-SGA

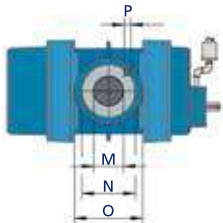
Type	A	B	C	D	E	F	G	G1	H -0.5	I	L	L1	L2	M	Q	S	U	V	W	Z	X	Y	KW	Motor	Weig. kg
35	295	215	12	331	251	243	266	299	160	42.5	509	806	561	80	319	1	391	295	24	40	8	27	1.5	90/S2	98
45	295	275	12	331	311	273	296	324	160	42.5	569	893	621	80	319	1	451	295	24	40	8	27	2.2	90/L2	111
65	340	341	14	385	387	340	361	410	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	A	B	C	D	E	F	G	G1	H -0.5	I	L	L1	L2	M	Q	S	U	V	W	Z	X	Y	KW	Motor	Weig. kg
35	266	215	12	302	251	243	266	299	132	175	509	808	561	80	318		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		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		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		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		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		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		1098	815	55	110	16	59	18.5	180/M4	1152

Drilling for flat flanges PN10 UNI 2236 or ANSI 125 FF

RF Cooling connection G 1/4"
Dimension W with tolerance k6



PN10 UNI 2236

M DN	N	O	P	HOLES
80	160	200	18	4
100	180	230	18	8
150	240,2	285	23	8
200	296	340	23	8
250	350	405	24	12
300	400	475	24	12

ANSI 125 FF

M inch	N	O	P	HOLES
3"	152,4	200	18	4
4"	190,5	230	18	8
6"	240,2	285	23	8
8"	296	340	23	8
10"	362	405	24	12
12"	431,8	475	24	12

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