

RBS/AV

High Vacuum Blowers



ROBUSCHI®
PUMPS AND BLOWERS

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 0,01 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 dimensional 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 opposite 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.

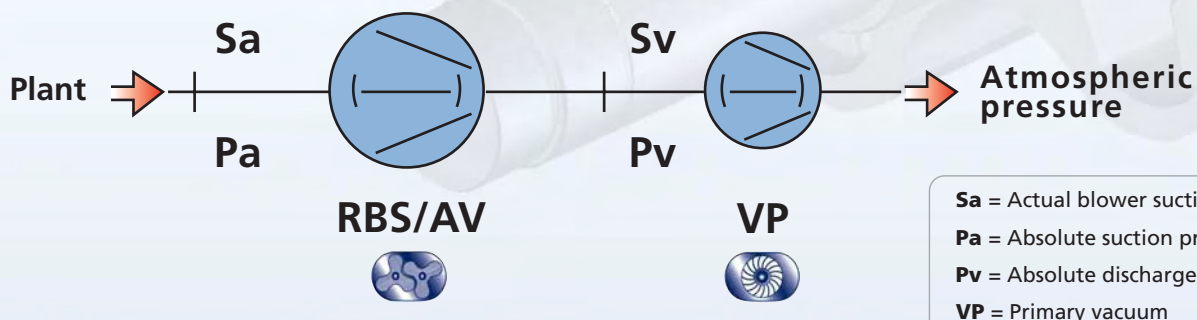
These materials assure good performance at standard operating conditions with gases or vapours.

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).



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 vaccum 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 difusion 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 plant nuclear industry aerospace industry | |



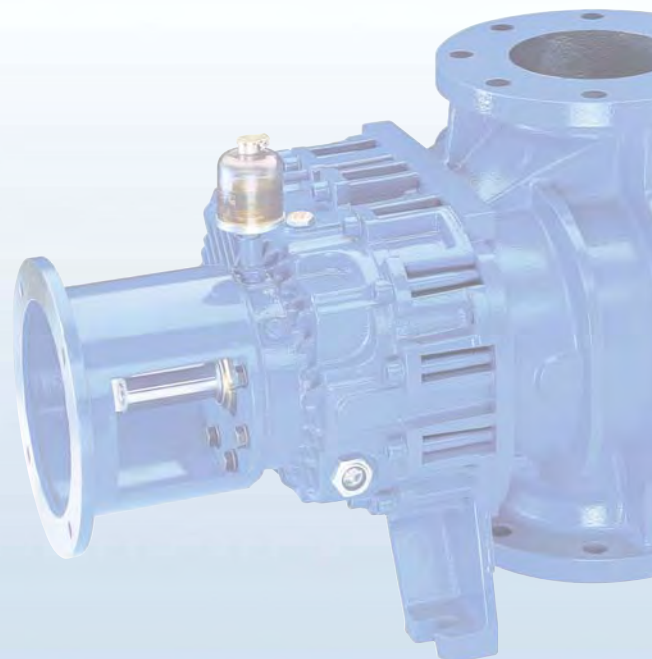
High Vacuum Blowers:
ROBUSCHI RBS/AV



VP
Liquid ring vacuum pumps:
ROBUSCHI RVS

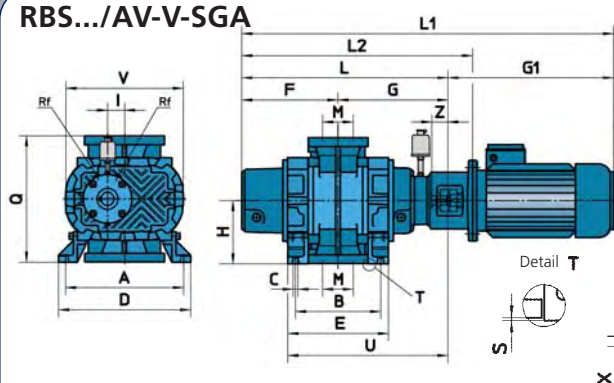
PERFORMANCE

| Blower size | BLOWER THEORETICAL SUCTION CAPACITY | | | | DIFFERENTIAL PRESSURE MAX mbar | MOTOR POWER 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 |

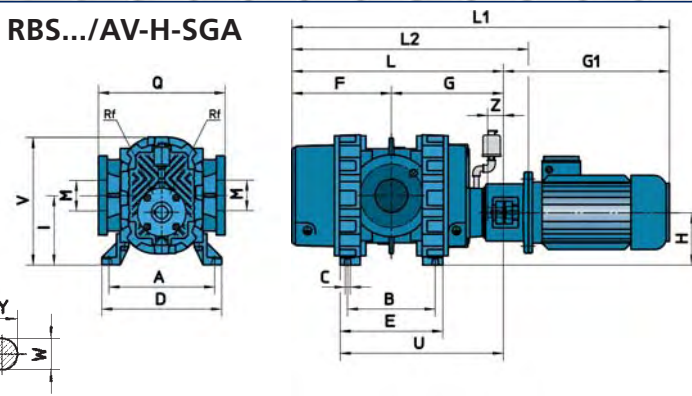


OVERALL DIMENSIONS

RBS.../AV-V-SGA



RBS.../AV-H-SGA



RBS.../AV-V-SGA

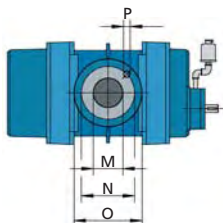
| Type | A | B | C | D | E | F | G | G1 | H -0,5 | I | L | L1 | L2 | M | Q | S | U | V | W | Z | X | Y | KW | Motor | Weig. kg |
|------|-----|-----|----|-----|-----|-----|-----|-----|-----------|------|------|------|------|-----|-----|---|------|-----|----|-----|----|----|------|--------|-------------|
| 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 | 2273 | 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 o 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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