



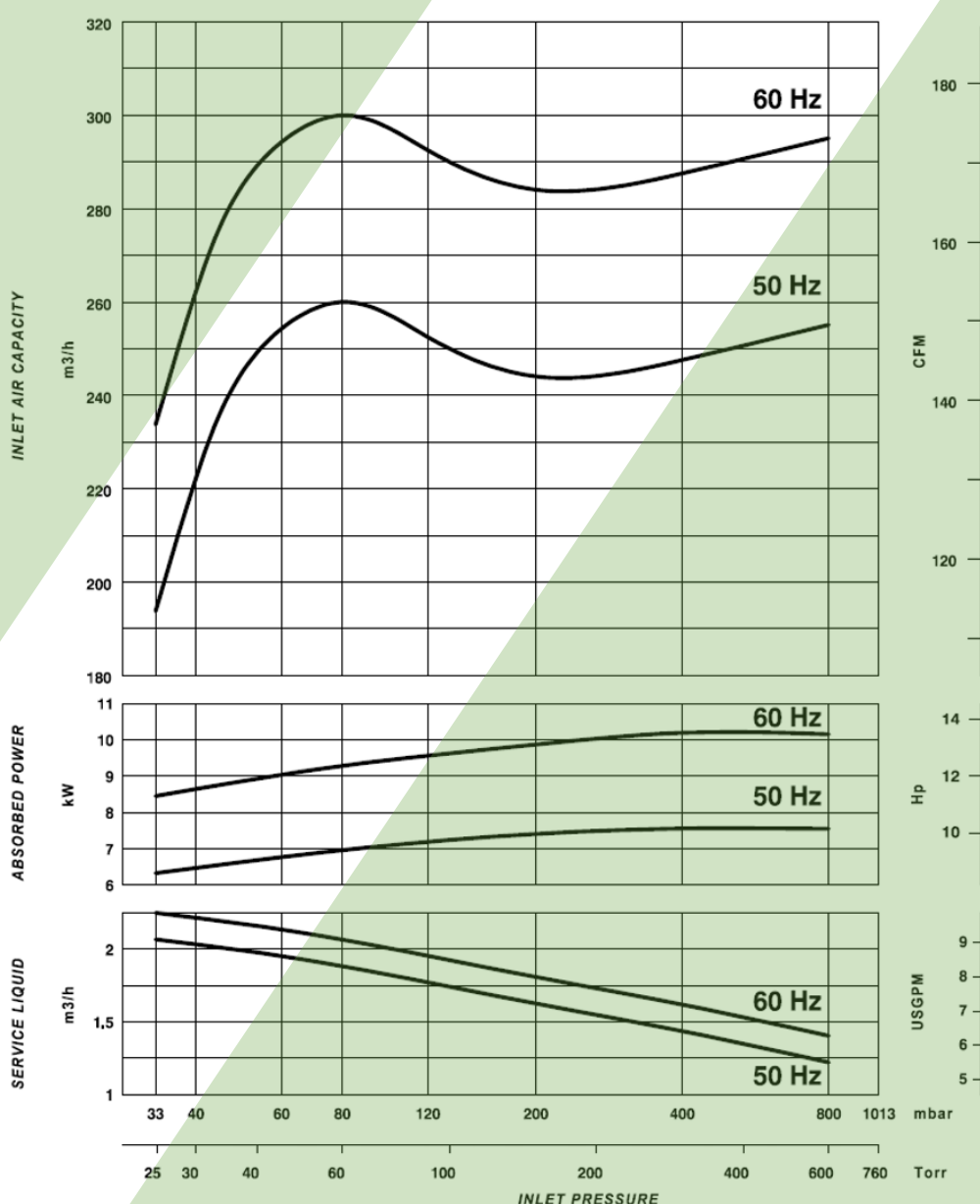
**Vacuum Technologies**  
A Unit of ASCO POMPE

# LIQUID RING VACUUM PUMP

## Model AVD 535CS – 530SS

### PERFORMANCE FEATURES

- Two-stage pump for optimum efficiency across all inlet pressures.
- Isothermal compression to safely handle any thermally sensitive and explosive gas.
- Right choice for any wet process.
- EAC TR CU 010/2011 certification.
- EAC TR CU 012/2011 certification.



#### NOTES :

The given data are referred to dry air at the temperature of 20°C, at the atmospheric discharge pressure (1013 mbar), and of supply of service water at 15°C temperature. Performances tolerance  $\pm 10\%$ .

Product specifications and data are subject to change without notice.

Performance test in compliance with PNEUROP 6612

# LIQUID RING VACUUM PUMP

**Model AVD 535CS-530SS**



## APPLICATIONS

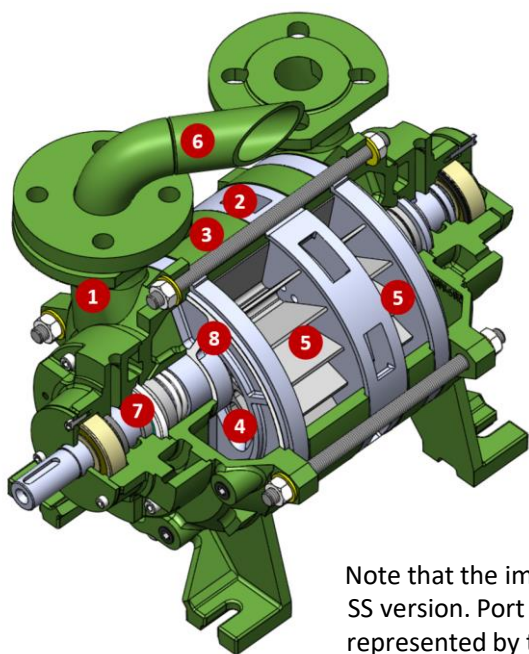
- Vacuum industrial processing
- Sterilization
- Extrusion
- Degassing
- Evaporation and distillation
- Priming
- Vacuum sewage
- Bottling
- Depoultry

## FEATURES

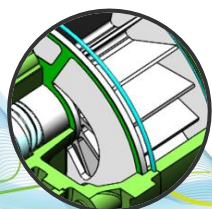
AVD 535CS – 530SS are two-stage liquid ring vacuum pumps, suitable to operate at deep vacuum by taking advantage of two impellers working in series. The pumps are bareshaft type, and the shaft connection is ensured by a flexible coupling. The shaft seal is made by means of a simple acting mechanical seal according to DIN 24960, one each pump end. Shaft sealing devices other than the standard require a technical assessment that can be carried out on request. The final end vacuum that can be achieved is 33 mbar abs at standard conditions.

AVD 535CS – 530SS guarantee wide versatility of operation and high reliability. The only moving part is the rotor, and minimum maintenance is required. The pumps work without the need to be constantly lubricated. They also operate with few vibrations, and with a limited noise level.

## MATERIALS OF CONSTRUCTION



Note that the image above is the SS version. Port plates for Cs are represented by the image below



| # | PART                         | CS                              | SS                              |
|---|------------------------------|---------------------------------|---------------------------------|
| 1 | Suction and discharge casing | CAST IRON<br>(ASTM A278 CL.250) | SS 316<br>(ASTM A351-CF8M)      |
| 2 | Intermediate casing          | CARBON STEEL<br>(ASTM S355)     | SS 316<br>(ASTM A240)           |
| 3 | Housing                      | CAST IRON<br>(ASTM A278 CL.250) | CAST IRON<br>(ASTM A278 CL.250) |
| 4 | Port plate                   | SS 316<br>(ASTM A240)           | SS 316<br>(ASTM A351-CF8M)      |
| 5 | Impeller                     | SS 316<br>(ASTM A351-CF8M)      | SS 316<br>(ASTM A351-CF8M)      |
| 6 | Manifold                     | CARBON STEEL                    | SS 316                          |
| 7 | Mechanical seal              | CARBON/SIC/<br>VITON/SS316      | CARBON/SIC/<br>FEP/SS316        |
| 8 | Gasket                       | ARAMIDIC FIBER                  | ARAMIDIC FIBER                  |

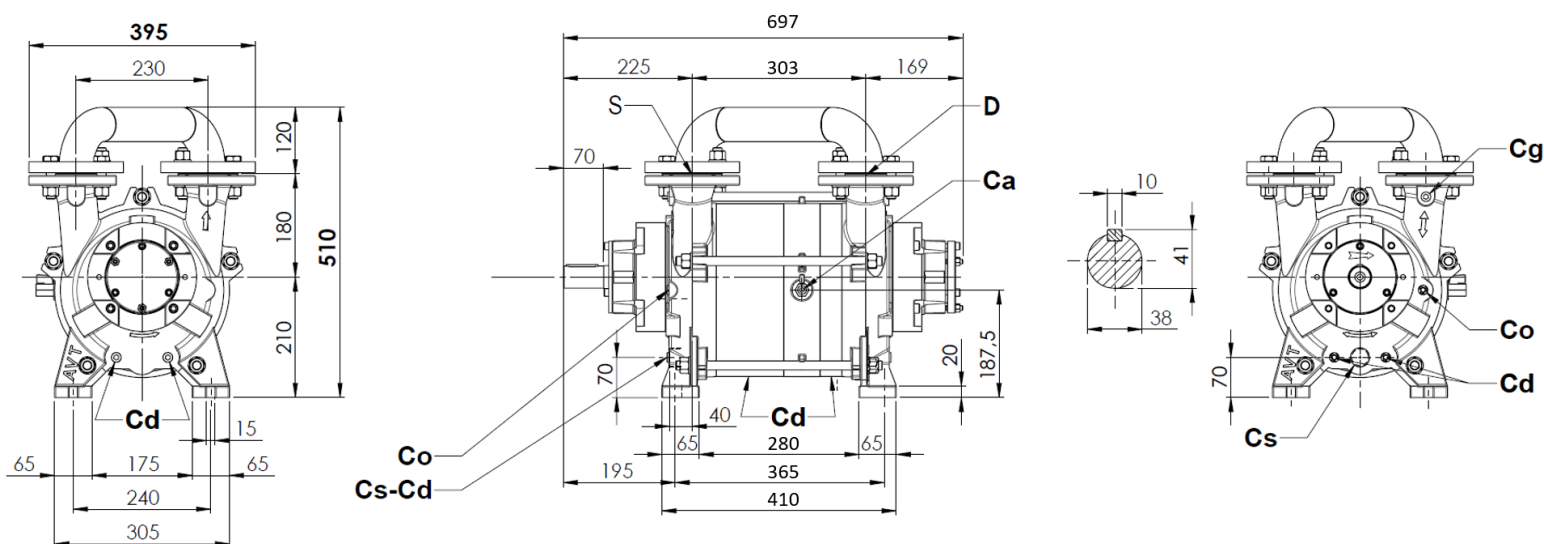
Product specifications and data are subject to change without notice



**Model AVD 535CS-530SS**

# LIQUID RING VACUUM PUMP

## 2D DRAWING



### CONNECTIONS

|    |                |          |
|----|----------------|----------|
| S  | Suction        | DN 50-2" |
| D  | Discharge      | DN 50-2" |
| Cs | Service liquid | G 1"     |
| Cd | Pump drain     | G 3/8"   |

### CONNECTIONS

|    |                |        |
|----|----------------|--------|
| Co | Overflow       | G 3/8" |
| Ca | Anticavitation | G 3/8" |
| Cg | Vacuum gauge   | G 3/8" |

## TECHNICAL SPECIFICATIONS

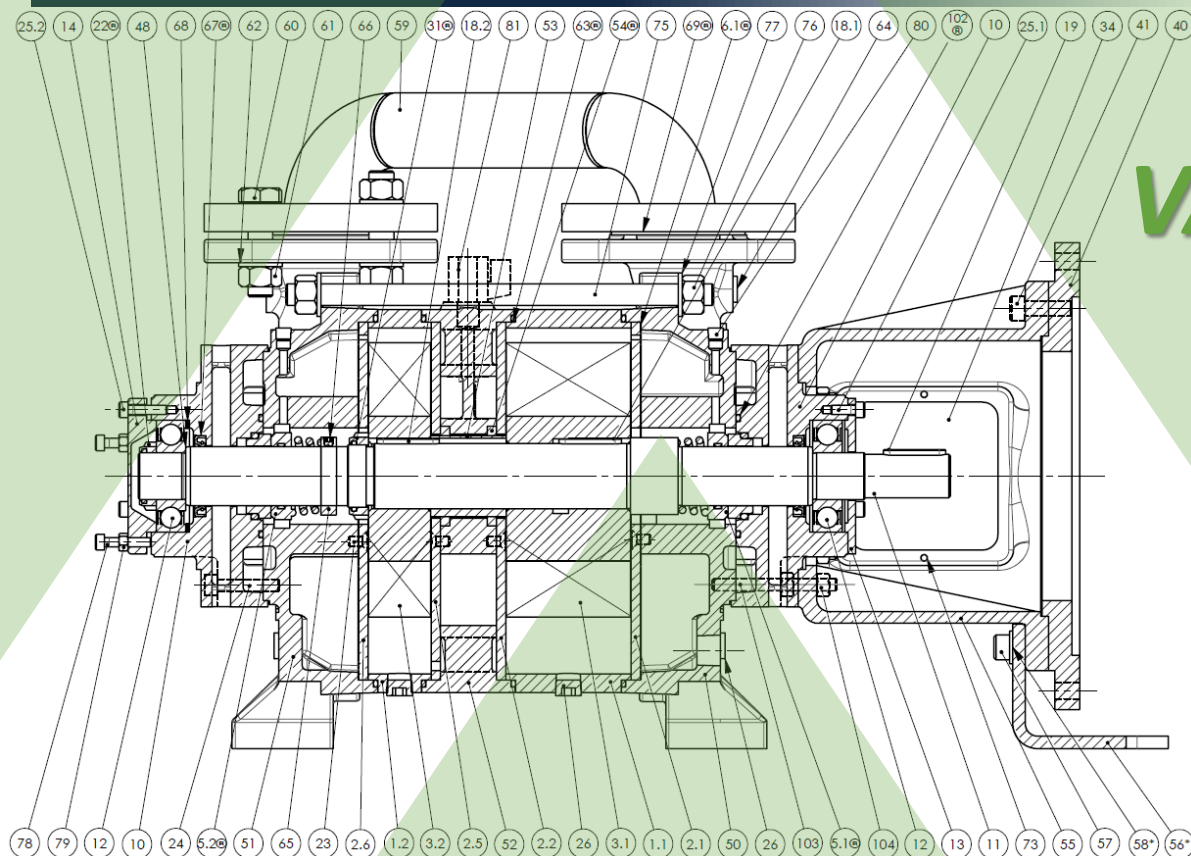
|                        | AVD 535CS-530SS 50Hz  | AVD 535CS-530SS 60Hz  |
|------------------------|-----------------------|-----------------------|
| Max inlet air capacity | 260 m <sup>3</sup> /h | 300 m <sup>3</sup> /h |
| Max suction pressure   | 33 mbara              | 33 mbara              |
| Dry weight             | 138 kg                | 138 kg                |
| Max gas temperature    | 100°C                 | 100°C                 |
| Casing test pressure   | 3 barg                | 3 barg                |
| Casing design pressure | 5 barg                | 5 barg                |

|                         | AVD 535CS-530SS 50Hz  | AVD 535CS-530SS 60Hz  |
|-------------------------|-----------------------|-----------------------|
| Noise level @80mbara    | 68 ± 3 dB(A)          | 68 ± 3 dB(A)          |
| Motor power             | 7,5 kW                | 11 kW                 |
| Motor speed             | 1450 rpm              | 1750 rpm              |
| Motor frame size        | 132                   | 160                   |
| Motor mounting          | B3                    | B3                    |
| Max service liquid flow | 2,1 m <sup>3</sup> /h | 2,1 m <sup>3</sup> /h |



# SPARE PARTS AVAILABLE

# LIQUID RING VACUUM PUMP Model AVD 535CS 530SS



| Pos   | Description                           | Q.ty |
|-------|---------------------------------------|------|
| 1.1   | Intermediate casing 1st stage         | 1    |
| 1.2   | Intermediate casing 2nd stage         | 1    |
| 2.1   | Suction port plate, 1st stage         | 1    |
| 2.2   | Discharge port plate, 1st stage       | 1    |
| 2.5   | Suction port plate, 2nd stage         | 1    |
| 2.6   | Discharge port plate, 2nd stage       | 1    |
| 3.1   | Impeller 1st stage                    | 1    |
| 3.2   | Impeller 2nd stage                    | 1    |
| 5.1 * | Mechanical seal, drive end            | 1    |
| 5.2 * | Mechanical seal, non drive end        | 1    |
| 6.1 * | Suction/discharge casing-plate gasket | 2    |
| 10    | Bearing housing                       | 2    |
| 11    | Shaft                                 | 1    |
| 12    | Ball bearing                          | 2    |
| 13    | Bearing cover, drive end              | 1    |
| 14    | Bearing cover, non drive end          | 1    |
| 18.1  | Key 1st stage                         | 1    |
| 18.2  | Key 2nd stage                         | 1    |
| 19    | Coupling key                          | 1    |
| 22 *  | Bearing nut                           | 1    |
| 23    | Screw                                 | 4    |
| 24    | Screw                                 | ^    |

| Pos    | Description      | Q.ty |
|--------|------------------|------|
| 25.1   | Screw            | 3    |
| 25.2   | Screw            | 3    |
| 26     | Plug             | 5    |
| 31 *   | Impeller nut     | 1    |
| 34 **  | Coupling guard   | 2    |
| 40 *** | Adaptor flange   | 1    |
| 41 *** | Screw            | 4    |
| 48     | Spacer ring      | 1    |
| 50     | Suction casing   | 1    |
| 51     | Discharge casing | 1    |
| 52     | Central casing   | 1    |
| 53     | Impeller spacer  | 1    |
| 54 *   | Packing          | 2    |
| 55 **  | Lantern          | 1    |
| 56 **  | Lantern foot     | 1    |
| 57 **  | Screw            | 2    |
| 58 **  | Washer           | 2    |
| 59     | Manifold         | 1    |
| 60     | Screw            | 8    |
| 61     | Nut              | 8    |
| 62     | Washer           | 8    |
| 63 *   | O-Ring           | 4    |

| Pos    | Description            | Q.ty |
|--------|------------------------|------|
| 64     | Plug                   | 1    |
| 65     | Machanical seal spacer | 1    |
| 66     | Headless crew          | 2    |
| 67 *   | Lip seal               | 2    |
| 68     | Compensating ring      | 3    |
| 69     | Flange gasket          | 2    |
| 73 **  | Screw                  | 4    |
| 75     | Tie rod                | ^    |
| 76     | Nut                    | ^^   |
| 77     | Washer                 | ^^   |
| 78     | Screw                  | 3    |
| 79     | Nut                    | 3    |
| 80     | Plug                   | 2    |
| 81     | Relief valve           | 1    |
| 102 *  | O-Ring                 | 2    |
| 103 ** | Stud                   | 4    |
| 104 ** | Nut                    | 8    |

\* repair kit spare parts

\*\* only for AVDL

\*\*\* only for AVDLF

^ 8 for AVD; 4 for AVDL

^^ 10 for AVD4; 12 for AVD5-8



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