



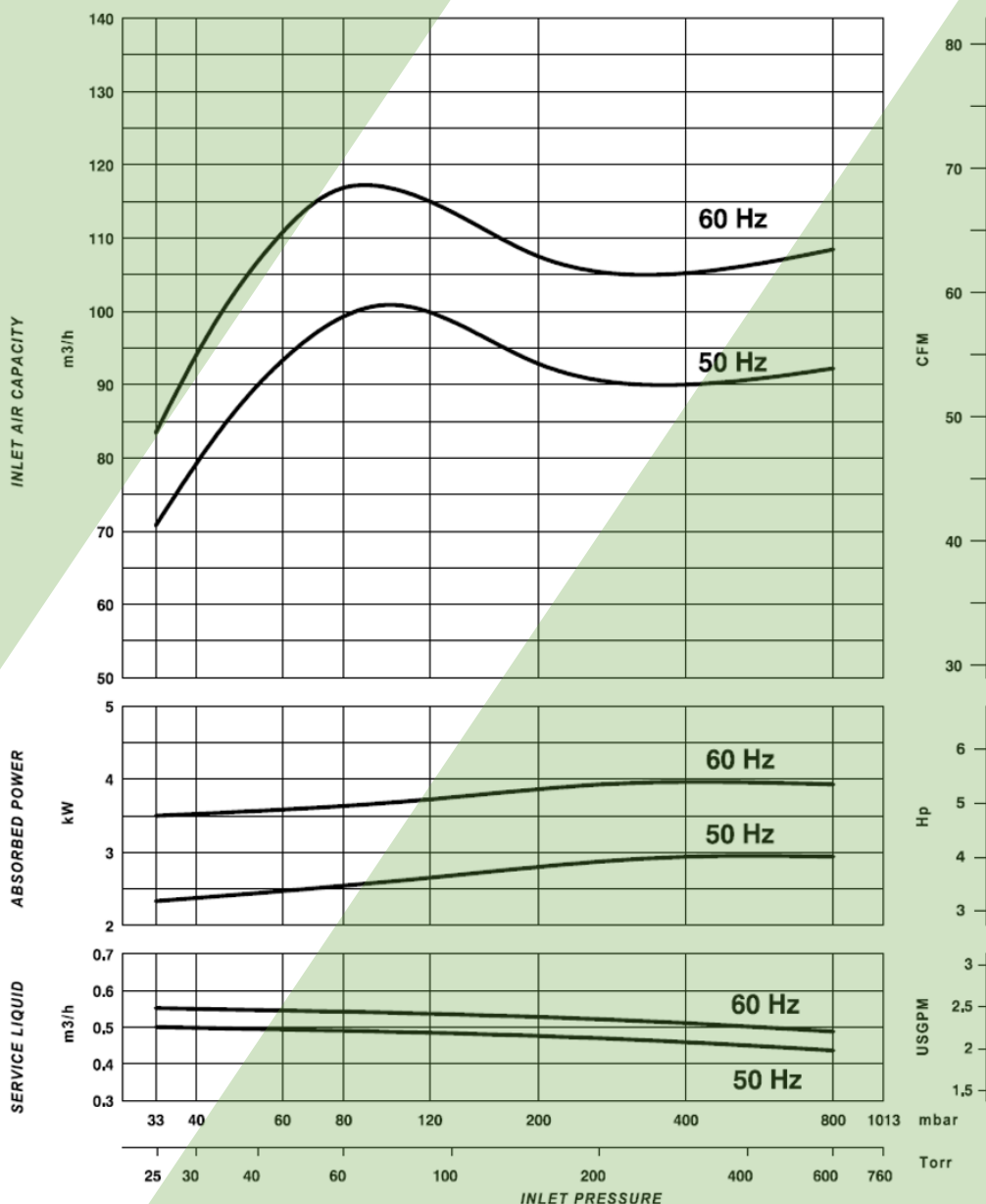
**Vacuum Technologies**  
A Unit of ASCO POMPE

# LIQUID RING VACUUM PUMP

## Model AVD 415CS – 411SS

### 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 415CS-411SS



## APPLICATIONS

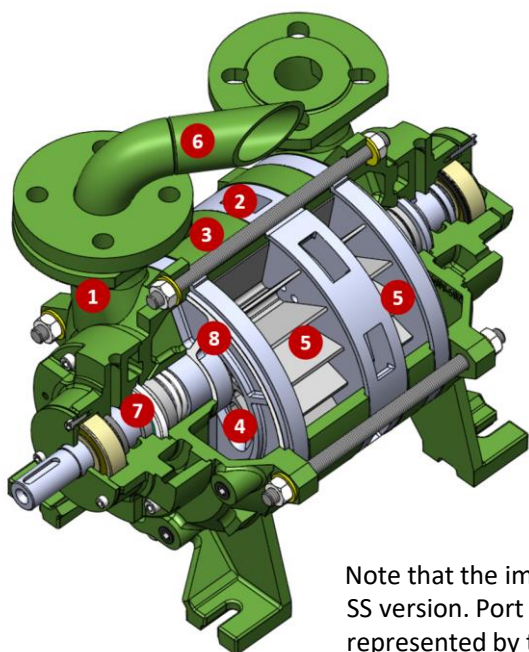
- Vacuum industrial processing
- Sterilization
- Extrusion
- Degassing
- Evaporation and distillation
- Priming
- Vacuum sewage
- Bottling
- Depoultry

## FEATURES

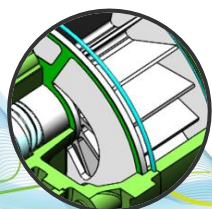
AVD 415CS – 411SS are two-stage liquid ring vacuum pumps, suitable to operate at deep vacuum by taking advantage of two impellers working in series. The pumps are bareshaft type, and the shaft connection is ensured by a flexible coupling. The shaft seal is made by means of a simple acting mechanical 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 415CS – 411SS 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 (ASTM A278 CL.250)	SS 316 (ASTM A351-CF8M)
2	Intermediate casing	CARBON STEEL (ASTM S355)	SS 316 (ASTM A240)
3	Housing	CAST IRON (ASTM A278 CL.250)	CAST IRON (ASTM A278 CL.250)
4	Port plate	SS 316 (ASTM A240)	SS 316 (ASTM A351-CF8M)
5	Impeller	SS 316 (ASTM A351-CF8M)	SS 316 (ASTM A351-CF8M)
6	Manifold	CARBON STEEL	SS 316
7	Mechanical seal	CARBON/SIC/ VITON/SS316	CARBON/SIC/ FEP/SS316
8	Gasket	ARAMIDIC FIBER	ARAMIDIC FIBER

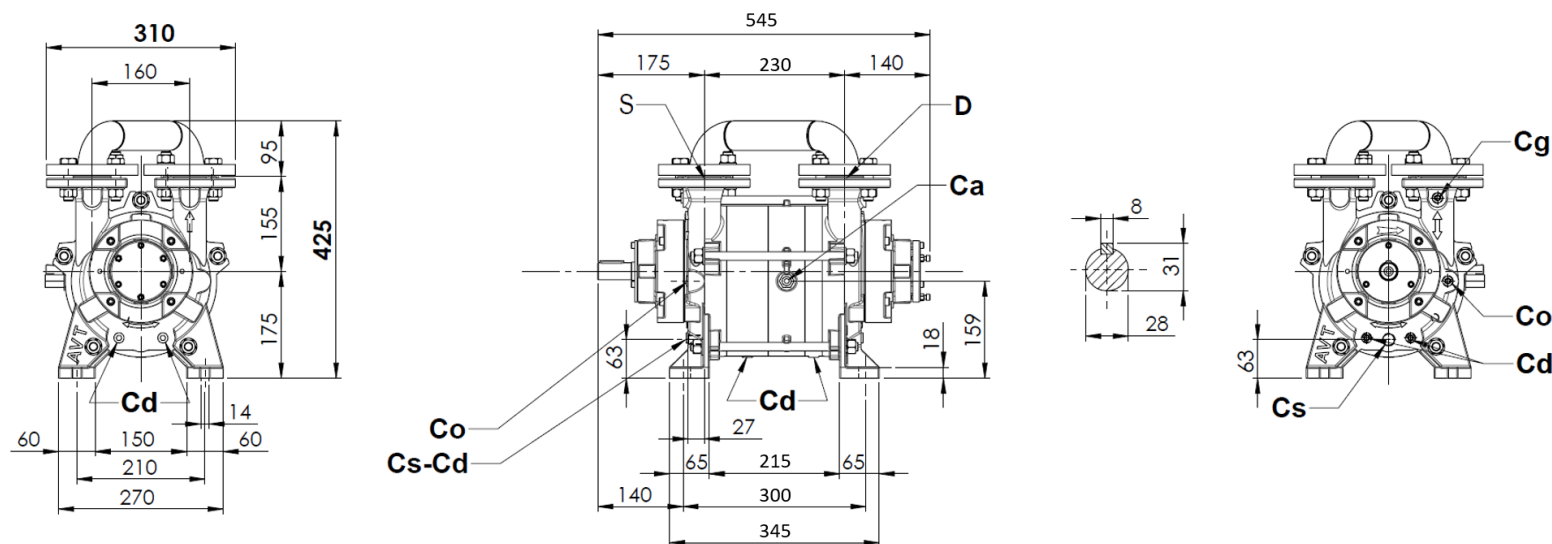
Product specifications and data are subject to change without notice



**Model AVD 415CS-411SS**

# LIQUID RING VACUUM PUMP

## 2D DRAWING



CONNECTIONS		
S	Suction	DN 40-1"1/2
D	Discharge	DN 40-1"1/2
Cs	Service liquid	G 1/2"
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

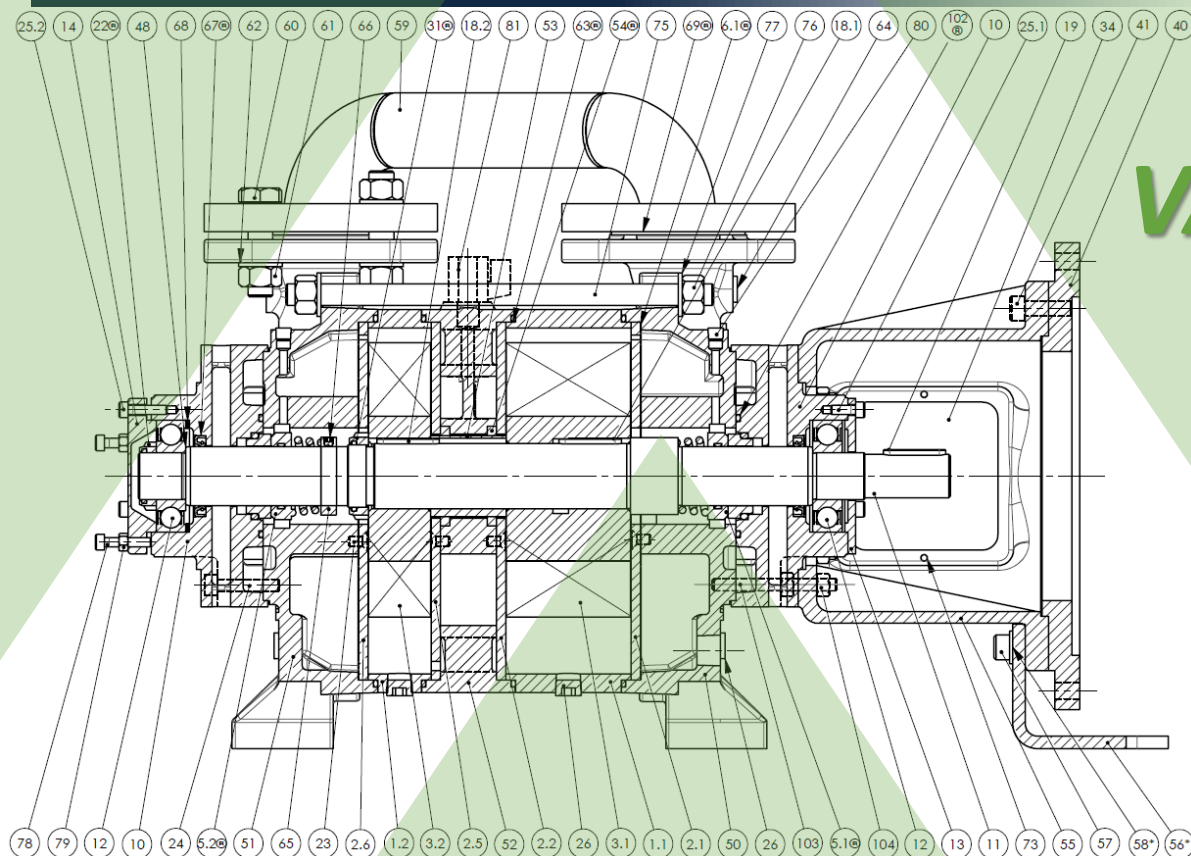
	AVD 415CS-411SS 50Hz	AVD 415CS-411SS 60Hz
Max inlet air capacity	100 m <sup>3</sup> /h	115 m <sup>3</sup> /h
Max suction pressure	33 mbara	33 mbara
Dry weight	83 kg	83 kg
Max gas temperature	100°C	100°C
Casing test pressure	3 barg	3 barg
Casing design pressure	5 barg	5 barg

	AVD 415CS-411SS 50Hz	AVD 415CS-411SS 60Hz
Noise level @80mbara	67 ± 3 dB(A)	67 ± 3 dB(A)
Motor power	3 kW	4 kW
Motor speed	1450 rpm	1750 rpm
Motor frame size	100	112
Motor mounting	B3	B3
Max service liquid flow	0,5 m <sup>3</sup> /h	0,5 m <sup>3</sup> /h



# SPARE PARTS AVAILABLE

# LIQUID RING VACUUM PUMP Model AVD 415CS 411SS



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

Rev.1 – 04.2021



**Asco Vacuum Technologies**

Asco Pompe S.r.l.

Via Silvio Pellico, 6/8

20089 Rozzano (MI) – Italy

Phone: +39 02 892571

Fax: +39 02 89257201

Mail: [info@ascovacuum.com](mailto:info@ascovacuum.com)

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