



Alfa Laval Arctigo LSV

Datacenter air cooler

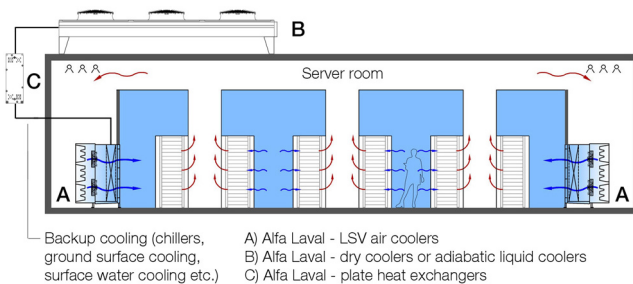
General information & application

Alfa Laval Arctigo LSV air coolers are heavy duty industrial air coolers specifically designed for cooling down server heat production in data centers that have been built according to "Low Speed Ventilation".

LSV air coolers operate with low fan speed, low air velocities and minimal pressure differences along the route of the air flow, achieved by the building itself being part of the system. For this reason all Arctigo LSV air coolers have been designed with a 16 Pa air-sided pressure drop and a sensible heat factor of 1.0.

Refrigerant	Water
Nom. capacities	7.4 - 311 kW*
Air volume	1865 - 77750 m ³ /h.

* Models with higher/lower capacities available on request.



Hot & cold containment

Arctigo LSV air coolers are applicable for both hot and cold containment systems, with or without raised floor and the optional use of outside air.

Standard configuration

- Modular cooler coil with Cu tubing Ø 5/8", tube pitch 48x48 mm triangular. Corrugated aluminium fins, fin spacing 5 mm.
- 1 to 10 energy efficient EC fans, Ø 400 up to 800 mm; blowing through the coil. Fans with elevated external pressure. Fan current 230/50/1 or 400/50/3.
- Corrosion-resistant casing: aluminium/sendzimir, white epoxy coated (RAL 9003)



Arctigo LSV

Customization

Arctigo LSV is based on a flexible design concept. In addition to the standard range, Arctigo LSV air coolers can be fully customized to meet any client specifications.

Options

- Filter frame for mounting of compact air filters (592x592x290mm).
- Modbus communication for precise fan control.
- Fin-sided safety grid for hot containment applications



Air cooler selection

Please contact our sales organization for air cooler selection and full technical details.

Benefits

- Application-based air cooler design to ensure optimized operation in LSV cooling systems.
- Heavy duty coil and casing materials, resulting in a long operational product life.
- Operational fine tuning thanks to EC fans.
- Coil air-sided pressure drop only 16 Pa.
- Low total cost of ownership.
- Two-year product guarantee.
- On-line product information (QR code)



Arctigo LSV

Arctigo LSV	Nom. cap.*	Air volume	Liquid flow	Press. drop	Int. vol.	Weight	Coil surface	Dimensions (mm)			Connections in/out	Fan data				
												Power per fan nom.	abs.** 40Pa	fan speed nom./40Pa	Sound power per fan 40Pa	
type	kW	m ³ /h	m ³ /h	kPa	dm ³	kg	m ²	Length	Height	Width	Nr.	W	W	rpm	dB(A)	
114-5	7.4	1865	1.1	13	8	110	23	1115	880	1300	1"	1	410	75	1800/950	60
124-5	14.9	3730	2.1	25	14	160	46	1715	880	1300	1"	2	410	75	1800/950	60
144-5	30.0	7460	4.3	23	27	250	92	2915	880	1300	1½"	4	410	75	1800/950	60
164-5	44.0	11190	6.3	11	39	320	138	4115	880	1300	DN 40	6	410	75	1800/950	60
184-5	59.0	14920	8.5	23	51	420	184	5315	880	1300	DN 40	8	410	75	1800/950	60
1104-5	74.0	18650	10.6	41	64	530	230	6515	880	1300	DN 40	10	410	75	1800/950	60
214-5	15.0	3730	2.2	14	16	180	46	1115	1455	1300	1"	2	410	75	1800/950	60
224-5	29.5	7460	4.2	11	28	240	92	1715	1455	1300	1½"	4	410	75	1800/950	60
244-5	59.5	14920	8.6	24	54	360	184	2915	1455	1300	DN 50	4	840	140	1440/790	67
264-5	88.0	22380	12.6	11	78	540	276	4115	1455	1300	DN 65	6	840	140	1440/790	67
284-5	119.0	29840	17.1	23	102	690	368	5315	1455	1300	DN 65	8	840	140	1440/790	67
2104-5	149.0	37300	21.4	41	128	840	460	6515	1455	1300	DN 65	10	840	140	1440/790	67
314-5	23.5	5910	3.4	45	25	290	73	1115	2125	1300	1"	3	410	75	1800/950	60
324-5	47.0	11820	6.8	39	45	380	146	1715	2125	1300	DN 40	6	410	75	1800/950	60
344-5	94.0	23640	13.5	23	84	780	292	2915	2125	1300	DN 50	4	1250	200	1200/670	68
364-5	138.0	35460	19.8	11	124	1120	438	4115	2125	1300	DN 80	6	1250	200	1200/670	68
384-5	188.0	47280	27.0	23	163	1460	584	5315	2125	1300	DN 80	8	1250	200	1200/670	68
3104-5	236.0	59100	33.9	41	202	1800	730	6515	2125	1300	DN 80	10	1250	200	1200/670	68
414-5	31.0	7775	4.5	32	33	340	95	1115	2700	1300	1" x 2	4	410	75	1800/950	60
424-5	62.0	15550	8.9	46	59	460	190	1715	2700	1300	1½" x 2	8	410	75	1800/950	60
444-5	124.0	31100	17.8	26	111	1280	380	2915	2700	1300	DN 50 x 2	4	3350	270	1400/570	64
464-5	182.0	46650	26.1	11	163	1860	570	4115	2700	1300	DN 65 x 2	6	3350	270	1400/570	64
484-5	247.0	62200	35.5	23	214	2440	760	5315	2700	1300	DN 65 x 2	8	3350	270	1400/570	64
4104-5	311.0	77750	44.7	41	266	3020	950	6515	2700	1300	DN 65 x 2	10	3350	270	1400/570	64

* Nominal capacities are given for the following conditions: Air speed = 1.5 m/s, T_{air in} = 36.5°C, T_{air out} = 24°C, T_{water in} = 17°C, T_{water out} = 23°C (100% water). Higher air speeds will significantly increase cooling capacities.

** Absorbed fan power values are without air filters, filter application will increase pressure drop & energy consumption.

Water in-out temperature °C	Capacity %	Water volume %	Pressure drop %
13 -19	124	124	148
14 - 20	118	118	135
15 - 21	112	112	123
16 - 22	106	106	111
17 - 23	100	100	100
18 - 24	94	94	91
19 - 25	88	88	81
20 - 26	82	82	72
21 - 27	76	76	62

DT K	Capacity %	Water volume %	Pressure drop %
10	85	51	32
9	89	59	41
8	93	70	54
7	97	83	73
6	100	100	100
5	103	124	145
4	106	159	234

Calculation example for temperature water in-out 13-17 °C (DT = 4)
13 - 17 °C 1.24*1.06=1.31 1.24*1.59=1.97 1.48*2.34=3.46

Code description

Arctigo LSV **3 4 4** - **5** - **230**
 1 2 3 4 5 6 7

- 1 Alfa Laval industrial air cooler
- 2 Low Speed Ventilation range
- 3 Number of coil modules in height (1, 2, 3 or 4)
- 4 Number of coil modules in length (1 to 10)
- 5 Tube rows in air direction
- 6 Fin spacing (5 mm)
- 7 Current (230=230/50/1, 400=400/50/3)

Design pressure

Design pressure 10 bar. Each heat exchanger is leak tested with dry air and finally supplied with a nitrogen pre-charge.

Certifications

The Alfa Laval quality system is in accordance with ISO 9001 and ISO 14001. All products are manufactured according to CE and PED regulations.



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How to contact Alfa Laval

Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com