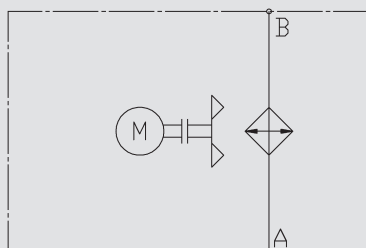




Symbol



General

The AC-LN 1-7 air cooler series can be used in all areas where either oil or water-glycol is to be cooled with air. The coolers with an axial fan can be used in the return line as well as in the bypass flow.

The wide range of accessories and optional versions mean that the coolers can be adapted flexibly to various applications.

Product Features

The cooler can also be used in the bypass flow by attaching a pump. An additional filter enables continuous filtration of the medium.

- Large product range
- Large cooling performance range
- Modular design

Air Cooler Industry

AC-LN 1-7 / ACA-LN 2-7 / ACAF-LN 2-7

Operation Data

Fluids	Oils (mineral oils, synthetic oils, high viscosity oils, biological oils, phosphate ester) Water-glycol (cooling fluid) HFC pressure fluids
Viscosity	AC-LN: 2,000 mm ² /s (standard) ACA-LN / ACAF-LN: see technical data
Temperature range	Minimum / maximum ambient temperature: -20 °C to +40 °C (standard) Minimum / maximum temperature of the medium: +130 °C Please contact the technical sales department in the event of deviating temperatures for applications with water-glycol. Notice! Fan switching frequency at max. fan speed (max. volume of air) must be avoided when operating a cooler at which the temperature difference between the medium inlet at the cooler and the ambient temperature can be greater than +50 °C. Quick changes in the temperature of the cooling element material can lead to a significant reduction in service life or to direct damage of the cooling element due to thermal shock. Please contact the technical sales department to receive information about controlled fan drives.
Pressure resistance of the cooling element	Dynamic operating pressure: 16 bar Static operating pressure: 21 bar
Fan	Axial fan in suction version (standard) Axial fan in pushing version on request (note: approx. 10 % less cooling capacity)
Motor	Three-phase motor Efficiency class IE2 (only ≥0.75 kW) Protection class IP55 Insulation class F Other versions on request.
ErP	The fan unit of the AC-LN corresponds to the minimum efficiency levels specified in the Ecodesign directive or ErP directive (Energy-related Products) 2009/125/EC.
Pump (only ACA-LN/ACAF-LN)	ACA-LN / ACAF-LN 2-3: screw pump ACA-LN / ACAF-LN 4-5-6: vane pump ACA-LN / ACAF-LN 7: screw pump with separate motor Operating pressure: max. 10 bar (screw pump) max. 6 bar (vane pump) Negative suction pressure of the pump: max. -0.4 bar Pump motor speed: 3,000 rpm
Noise levels	See technical data AC-LN and ACA-LN / ACAF-LN The noise levels are only reference values as the acoustic properties of a room, connections and reflection have an effect on the noise level.
Accessories	Integrated pressure bypass valve (IBP) or integrated thermal pressure bypass valve (IBT) (cannot be retrofitted, also see options) Thermostats Air filter grid or air filter mat Vibration damper

Application Field

Systems with small and medium cooling requirements, such as:

- Hydraulic systems
- Lubrication systems
- Gears
- Motors
- Generators
- Converters
- Machine tools

Options

Integrated pressure bypass valve (IBP) / Integrated thermal pressure bypass valve (IBT)

The bypass channel is integrated in the cooling element. If a particular pressure is exceeded, the IBP opens the bypass channel, thereby protecting the cooling element from too high a pressure. Furthermore, the IBT only opens the cooling element path once a particular temperature has been reached.

ATEX

The AC-LN (without pump and filter) is also available for operation in gas and dust explosive areas. The ATEX certification applies for a frequency of 50 Hz and 60 Hz.

Marine

The MAR version is for aggressive ambient conditions, such as industrial atmospheres, high humidity or high salt content, which place great demands on the corrosion resistance and robustness of the materials used.

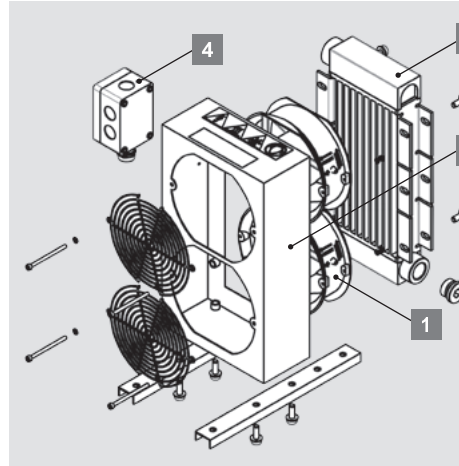
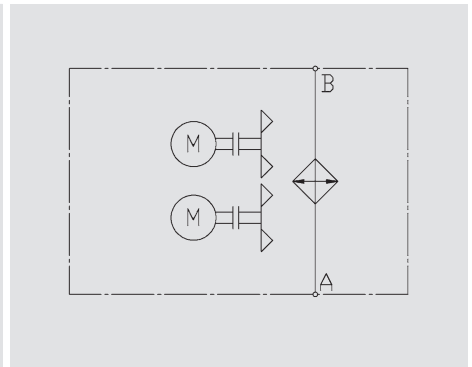
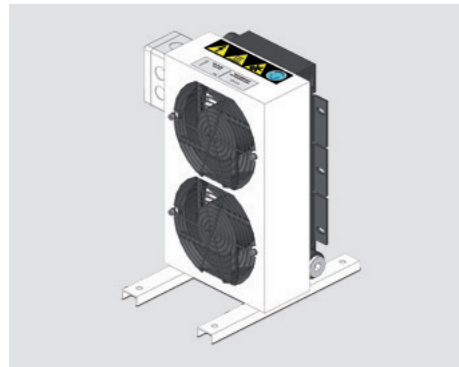
Cold Climate/Hot Climate

Use in extreme ambient conditions:
Cold Climate to -40 °C,
Hot Climate to +60 °C

The various versions can also be combined. Our technical sales department will be happy to assist you further.

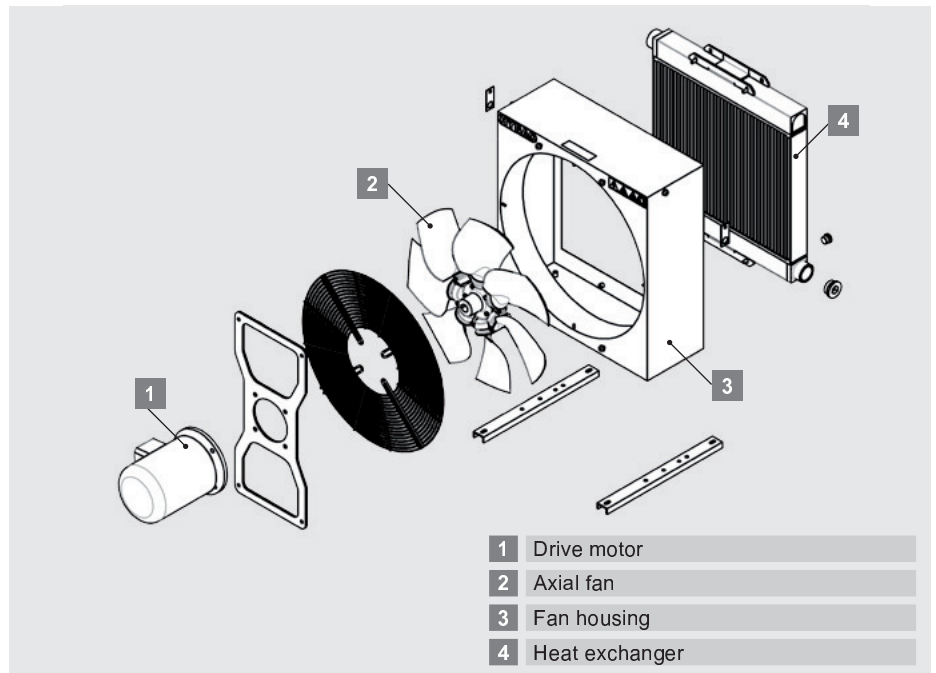
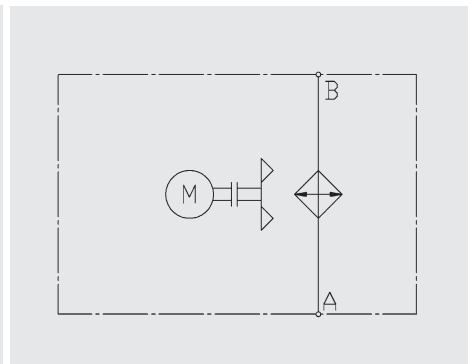
Design

AC-LN 1



- | | |
|---|---------------------------------|
| 1 | Axial fan with integrated motor |
| 2 | Fan housing |
| 3 | Heat exchanger |
| 4 | Electrical box |

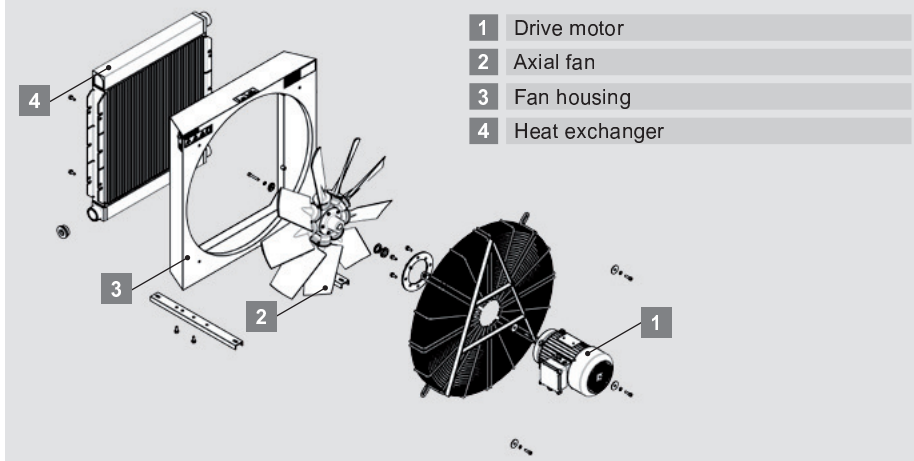
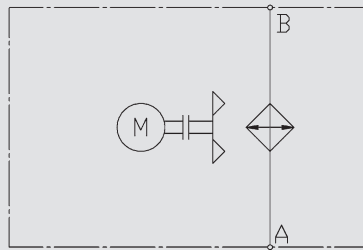
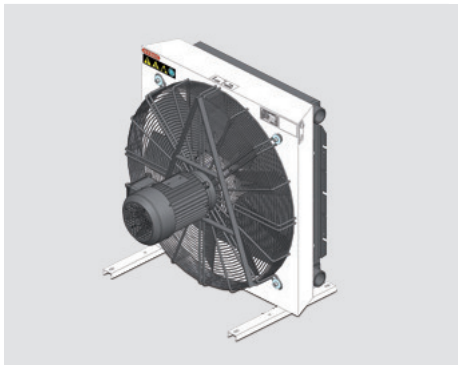
AC-LN 2-3-4-5-6



- | | |
|---|----------------|
| 1 | Drive motor |
| 2 | Axial fan |
| 3 | Fan housing |
| 4 | Heat exchanger |

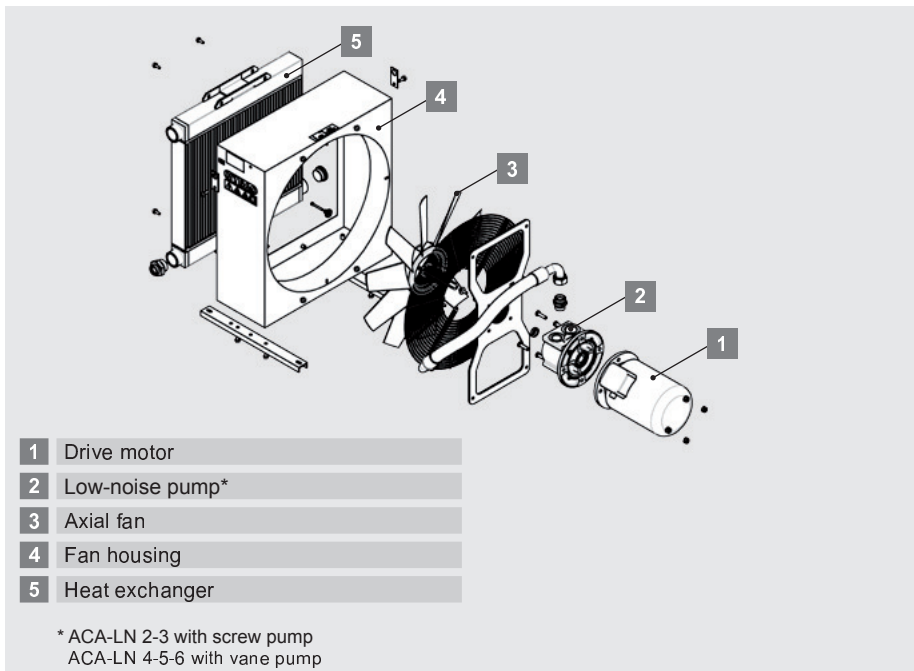
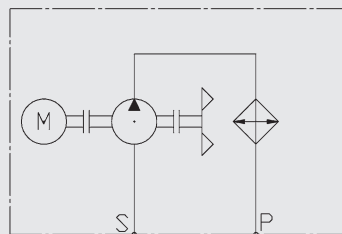
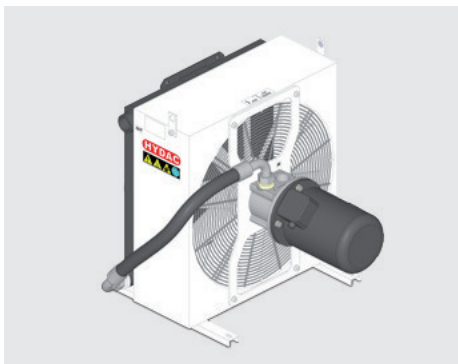
Design

AC-LN 7



- 1 Drive motor
- 2 Axial fan
- 3 Fan housing
- 4 Heat exchanger

ACA-LN 2-6

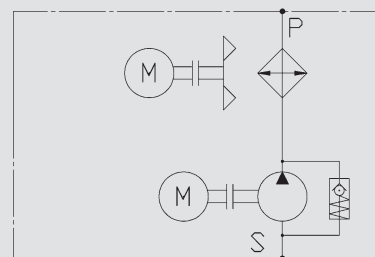


- 1 Drive motor
- 2 Low-noise pump*
- 3 Axial fan
- 4 Fan housing
- 5 Heat exchanger

* ACA-LN 2-3 with screw pump
ACA-LN 4-5-6 with vane pump

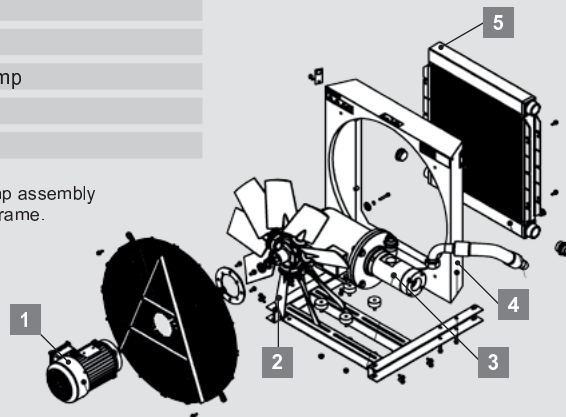
Design

ACA-LN 7

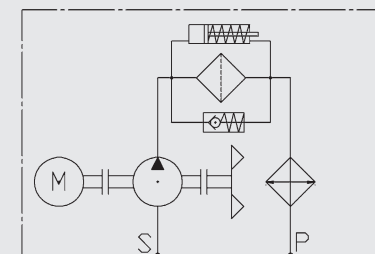


- 1 Drive motor
- 2 Axial fan
- 3 Low-noise screw pump
- 4 Fan housing
- 5 Heat exchanger

With external motor-pump assembly attached onto the base frame.

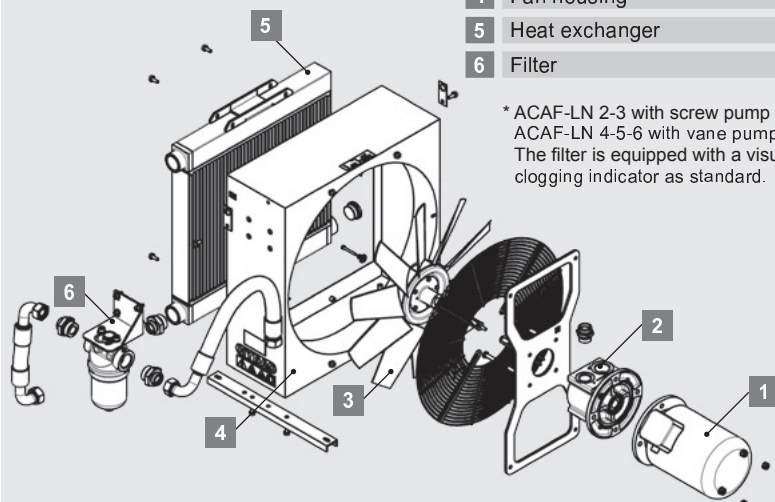


ACAF-LN 2-6



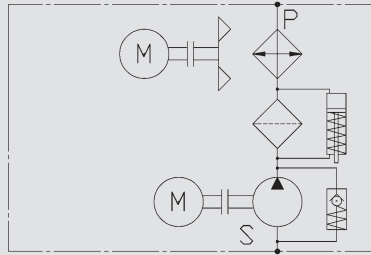
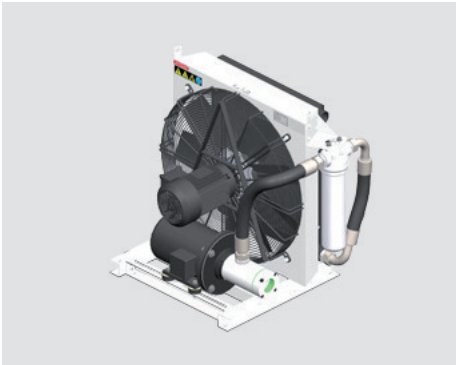
- 1 Drive motor
- 2 Low-noise pump*
- 3 Axial fan
- 4 Fan housing
- 5 Heat exchanger
- 6 Filter

* ACAF-LN 2-3 with screw pump
ACAF-LN 4-5-6 with vane pump
The filter is equipped with a visual clogging indicator as standard.



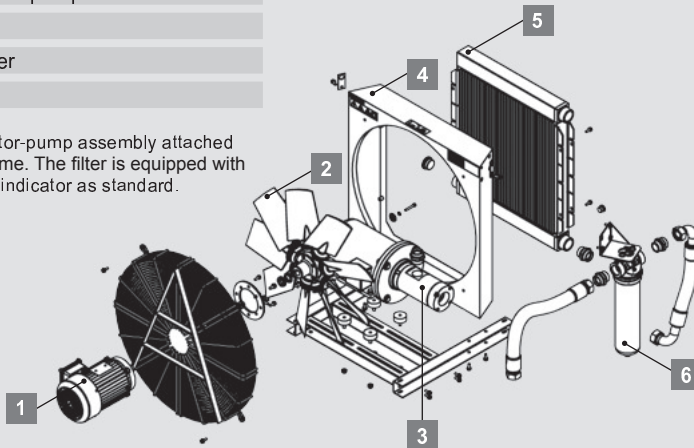
Design

ACAF-LN 7



- 1 Drive motor
- 2 Axial fan
- 3 Low-noise screw pump
- 4 Fan housing
- 5 Heat exchanger
- 6 Filter

With external motor-pump assembly attached onto the base frame. The filter is equipped with a visual clogging indicator as standard.



Technical Data

AC-LN

Type of cooler	P/N	Fluid [·] ¹⁾	Fluid flow [l/min] ²⁾	Air flow [m ³ /h] ³⁾	Fan motor: Poles / size / flange	Fan motor 50 Hz: Power / current absorption [kW / A] ⁴⁾		Fan motor 60 Hz: Power / current absorption [kW / A] ⁴⁾		Noise level (at 1m distance, 50 Hz) [dB(A)]	Volume [l] ⁵⁾	Weight [kg] ⁶⁾
						kW	A	kW	A			
AC-LN1H	3849085	F	120	650	-	0.03	0.23	0.03	0.21	60	0.3	7
AC-LN2S	3860765	F	180	900	4/63/B5	0.18	0.66	0.20	0.75	64	0.7	14
AC-LN2H	3860702	F	180	1,850	2/63/B5	0.25	0.76	0.30	0.76	80	0.7	14
AC-LN3S	3860382	F	180	1,400	4/63/B5	0.18	0.66	0.20	0.75	66	1.0	20
AC-LN3H	3860308	F	180	2,900	2/71/B14	0.55	1.21	0.66	1.50	85	1.0	20
AC-LN4L	3859982	F	200	1,600	6/71/B5	0.25	0.90	0.28	0.80	63	2.3	32
AC-LN4S	3860090	F	200	2,250	4/71/B5	0.37	1.20	0.40	1.10	72	2.3	32
AC-LN5L	3860913	F	250	2,050	6/80/B5	0.37	1.25	0.41	1.15	65	2.8	42
AC-LN5S	3860907	F	250	3,200	4/90/B5	1.10	2.60	1.30	2.20	75	2.8	45
AC-LN6L	3856579	F	250	2,800	6/80/B5	0.37	1.25	0.41	1.15	67	4.6	52
AC-LN6S	3859080	F	250	4,250	4/90/B5	1.10	2.60	1.30	2.20	77	4.6	52
AC-LN7L	3909026	F	300	4,800	6/90/B14	1.10	2.70	1.30	2.70	76	5.2	58
AC-LN7S	3909027	F	300	8,200	4/100/B14	3.00	6.00	3.60	7.20	84	5.2	63

¹⁾ Medium: F = mineral oil or water-glycol, M = mineral oil

²⁾ Max. flow rate

³⁾ Air flow data at 50 Hz

⁴⁾ AC-LN1: each motor

⁵⁾ Fluid in cooling element

⁶⁾ Unfilled

Technical Data

ACA-LN / ACAF-LN

Type of cooler	Fluid [-] ¹⁾	Fluid flow [l/min] ²⁾	Air flow [m³/h] ²⁾	Pump displacement [cm³/U]	Max. Viscosity [mm²/s] continuous working ³⁾	Fan motor: Poles / size / flange	Fan motor 50 Hz: power / current absorption [kW / A] ⁴⁾		Fan motor 60 Hz: power / current absorption [kW / A] ⁴⁾		Filter size [-]	Noise level (at 1m distance, 50 Hz) [dB(A)]	Volume [l] ⁵⁾	Weight [kg] ⁶⁾
ACA-LN2S	M	13	900	10	500	4/71/B5	0.37	1.20	0.40	1.10	-	64	0.7	21
ACA-LN2H	M	27	1,850	10	500	2/80/B5	1.50	3.10	1.80	3.10	-	80	0.7	21
ACAF-LN2S	M	13	900	10	500	4/71/B5	0.37	1.20	0.40	1.10	LPF160	64	0.7	22
ACAF-LN2H	M	27	1,850	10	500	2/80/B5	1.50	3.10	1.80	3.10	LPF160	80	0.7	22
ACA-LN3S	M	36	1,400	28	500	4/90/B5	1.10	2.60	1.30	2.60	-	66	1.0	35
ACA-LN3H	M	72	2,700	28	500	2/90/B5	2.20	4.50	2.6	4.5	-	85	1.0	35
ACAF-LN3S	M	36	1,400	28	500	4/90/B5	1.10	2.60	1.30	2.60	LPF160	66	1.0	36
ACAF-LN3H	M	72	2,700	28	500	2/90/B5	2.20	4.50	2.6	4.5	LPF160	85	1.0	36
ACA-LN4L	M	24/34	1,600	28/40	350	6/90/B5	1.10	2.65	1.30	2.25	-	63	2.3	35
ACA-LN4S	M	36/52	2,250	28/40	350	4/90/B5	1.80	3.70	2.10	3.60	-	72	2.3	35
ACAF-LN4L	M	24/34	1,600	28/40	350	6/90/B5	1.10	2.65	1.30	2.25	LPF160	67	2.3	41
ACAF-LN4S	M	36/52	2,250	28/40	350	4/90/B5	1.80	3.70	2.10	3.60	LPF160	72	2.3	41
ACA-LN5L	M	24/34	2,050	28/40	350	6/90/B5	1.10	2.65	1.30	2.25	-	65	2.8	45
ACA-LN5S	M	36/52	3,200	28/40	350	4/90/B5	1.80	3.70	2.10	3.60	-	75	2.8	45
ACAF-LN5L	M	24/34	2,050	28/40	350	6/90/B5	1.10	2.65	1.30	2.25	LPF160	65	2.8	52
ACAF-LN5S	M	36/52	3,200	28/40	350	4/90/B5	1.80	3.70	2.10	3.60	LPF160	77	2.8	52
ACA-LN6L	M	24/34	2,800	28/40	350	6/90/B5	1.10	2.65	1.30	2.25	-	67	4.6	55
ACA-LN6S	M	36/52	4,250	28/40	350	4/90/B5	1.80	3.70	2.10	3.60	-	77	4.6	55
ACAF-LN6L	M	24/34	2,800	28/40	350	6/80/B5	1.10	2.65	1.30	2.25	LPF160	67	4.6	62
ACAF-LN6S	M	36/52	4,250	28/40	350	4/90/B5	1.80	3.70	2.10	3.60	LPF160	77	4.6	62
ACA-LN7L	M	100/150/180	4,800	40/58/69	320/130/240	6/90/B14	1.10	2.70	1.30	2.70	-	76	5.2	74
ACA-LN7S	M	100/150/180	8,200	40/58/69	320/130/240	4/100/B14	3.00	6.00	3.60	7.20	-	84	5.2	74
ACAF-LN7L	M	100/150/180	4,800	40/58/69	320/130/240	6/90/B14	1.10	2.70	1.30	2.70	LPF280	76	5.2	82
ACAF-LN7S	M	100/150/180	8,200	40/58/69	320/130/240	4/100/B14	3.00	6.00	3.60	7.20	LPF280	84	5.2	82

¹⁾ Medium: F = mineral oil or water-glycol, M = mineral oil

²⁾ Fluid and air flow data at 50 Hz

³⁾ Depends on pump displacement

⁴⁾ For the size 7 the power / current absorption data are those of the fan motor.

For the pump motor on feet refer to the following data:

40/58 cm³/U → 3 [kW] / 6.7 [A]

69 cm³/U → 5.5 [kW] / 10.4 [A]

⁵⁾ Fluid in cooling element

⁶⁾ Unfilled

Cooling in bypass flow: ACA-LN / ACAF-LN

The ACA-LN with integrated boost pump is a complete bypass flow cooling system; the ACAF-LN is equipped with a high-quality HYDAC filter for additional filtration.

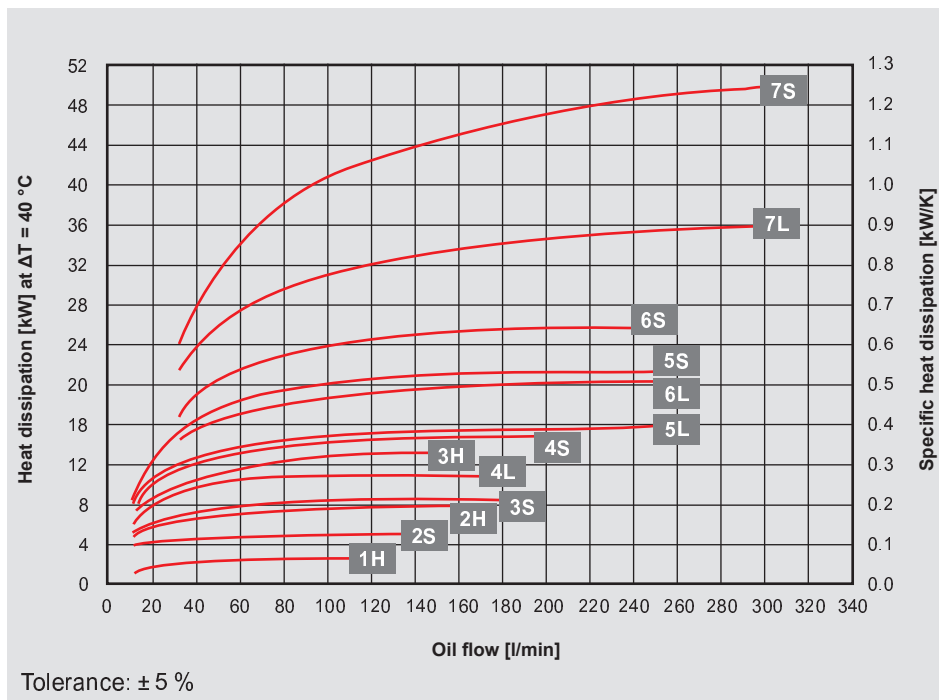
Advantages:

- Stable cooling and filtration (independent of the cycle times of the system)
- Continuous filtration is possible, cooling as required
- Avoidance of pressure surges in the cooling element
- Design of the cooler is in accordance with the cooling capacity required (not according to the maximum possible return flow volume)

Cooling Capacity and Pressure Difference Δp

Mineral oil

AC-LN / ACA-LN / ACAF-LN

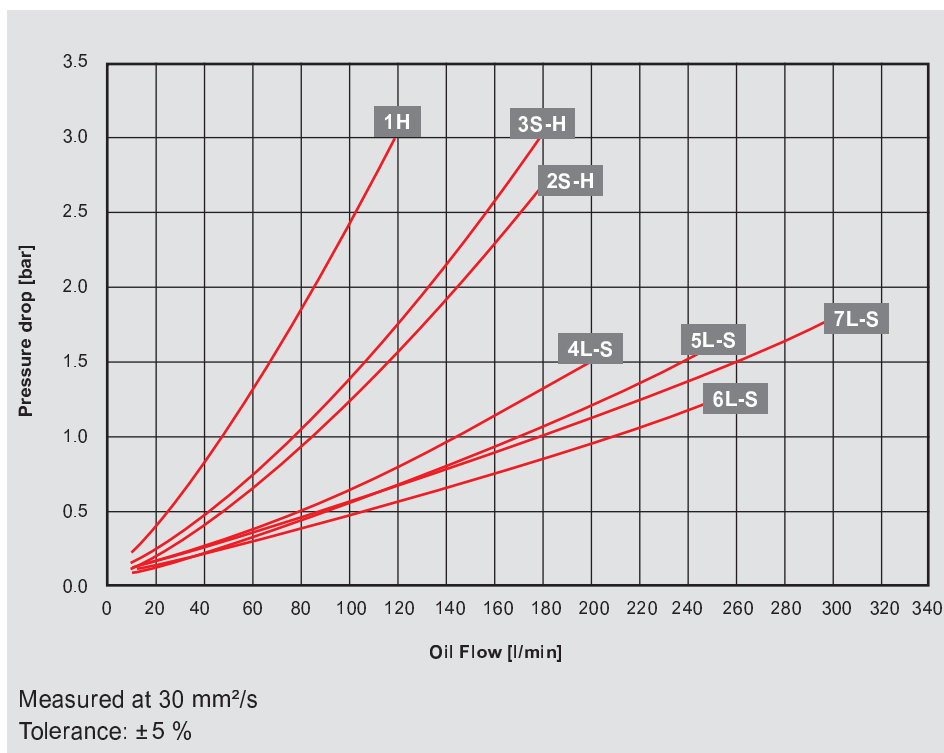


Cooling capacity:

Dependent on the oil flow rate and the temperature difference ΔT between oil inlet and air inlet.

Note:

The values are measured at $\Delta T = 40^\circ\text{C}$. For smaller ΔT values, the values can change. You can also use our cooler calculation software for designing. Please contact our technical sales department.



Pressure difference Δp

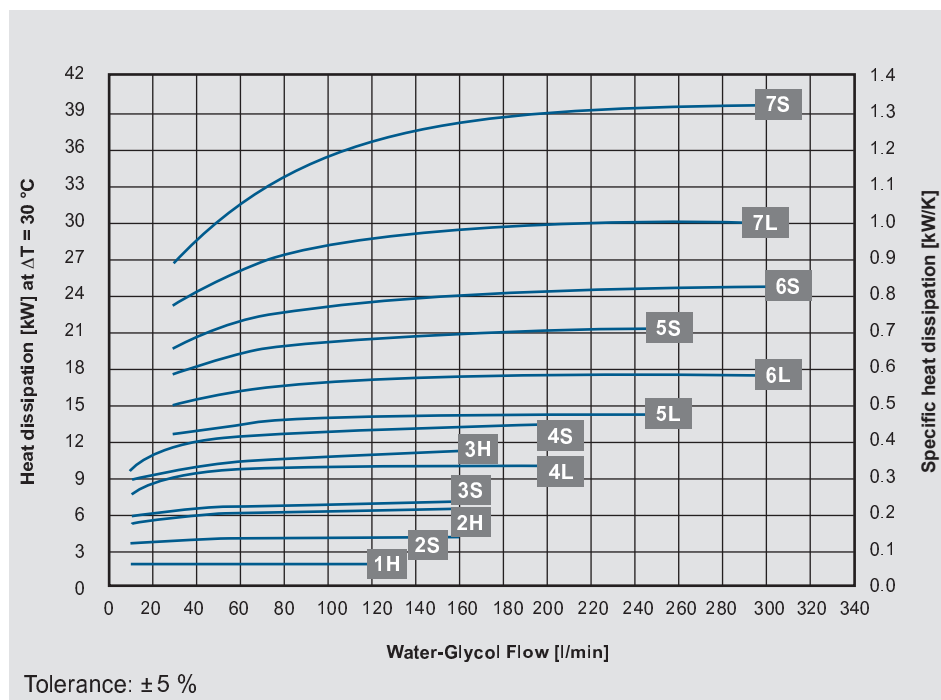
For other viscosities, the pressure loss must be multiplied by the conversion factor K:

Viscosity (mm ² /s)	10	15	22	30	46	68	100	150
Factor K	0.35	0.5	0.75	1	1.4	1.9	2.5	3.5

Cooling Capacity and Pressure Difference Δp

Water-glycol (60/40)

AC-LN

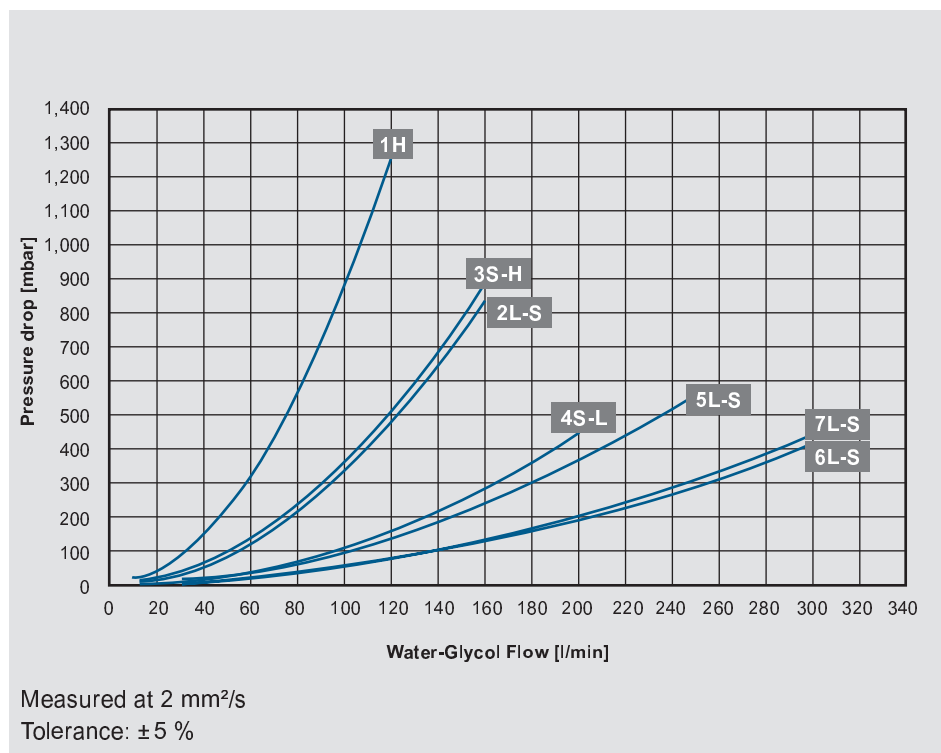


Cooling capacity:

Dependant on the water-glycol flow rate and the temperature difference ΔT between w/g inlet and air inlet.

Note:

The values are measured at $\Delta T = 30^\circ\text{C}$. For smaller ΔT values, the values can change. You can also use our cooler calculation software for designing. Please contact our technical sales department.



Pressure difference Δp

Model Type

ACAF-LN 4S - 40 - 1.0 - B - M - A - LPF160 - 10 - 1 - IBT

Cooler type

- AC-LN = Air cooler (oil / water-glycol mix)
- ACA-LN = Air cooler (oil) with integrated pump
- ACAF-LN = Air cooler (oil) with integrated pump and filter

Size / motor speed

- 1-7 = Size
- L = 6 poles (1,000 rpm)
- S = 4 poles (1,500 rpm)
- H = 2 poles (3,000 rpm)

Displacement cm³/rev

- 10 = Screw pump (ACA-LN / ACAF-LN2)
- 28 = Screw pump (ACA-LN / ACAF-LN3)
- 28 = Vane pump (ACA-LN / ACAF-LN4-6)
- 40 = Vane pump (ACA-LN / ACAF-LN4-6)
- 40/58/69 = Screw pump (ACA-LN / ACAF-LN 7)

Revision

Clogging indicators (only ACAF-LN)

- A = Without clogging indicator
- B = With visual indicator (Standard)
- D = With electrical and optical indicator

Fluids

- F = Mineral oil or water glycol mix (AC-LN)
- M = Mineral oil (ACA-LN and ACAF-LN)

Motor voltage

Standard voltages and frequencies for 3 phase motor

- A = 230/400 V – 50 Hz / 265/460 V – 60 Hz
 - B = 230/400 V – 50 Hz
 - C = 265/460 V – 60 Hz
 - AC-LN1 = 220-240 V – 50/60 Hz, single phase (Standard)
- (tolerance voltage $\pm 10\%$)
Other voltages on request.

Size of filter (only ACAF-LN)

- LPF160 = ACAF-LN2-6
- LPF280 = ACAF-LN7

Filtration rating in micron (only ACAF)

- 5 = 5 μm Betamicon®-4-N (5 BN4HC)
- 10 = 10 μm Betamicon®-4-N (10 BN4HC) (Standard)
- 20 = 20 μm Betamicon®-4-N (20 BN4HC)

Color

- 1 = RAL 9002 (Standard)
- Other colors on request.

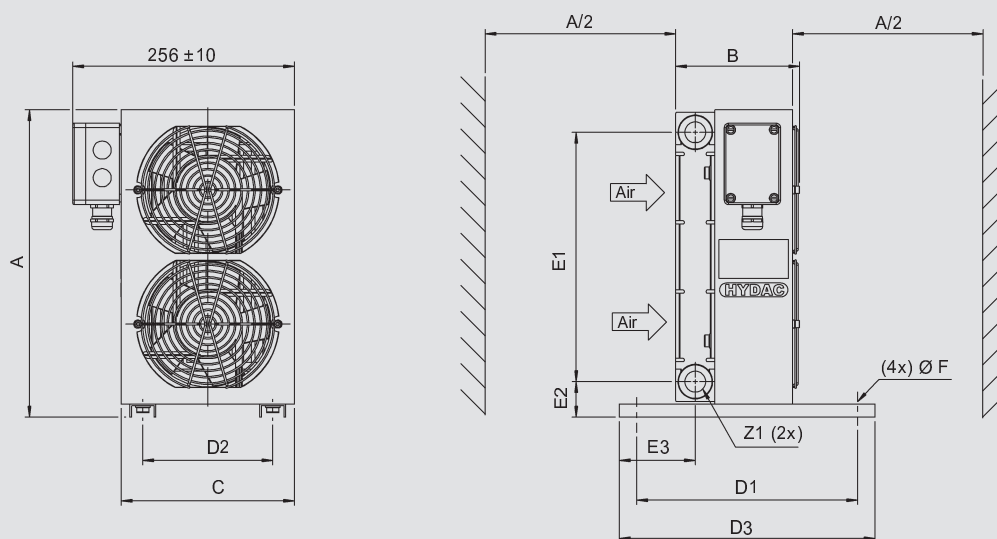
Accessories

- IBP = Heat exchanger with integrated bypass valve
- IBT = Heat exchanger with integrated thermo-bypass valve
- AITF = Thermostat (fixed)

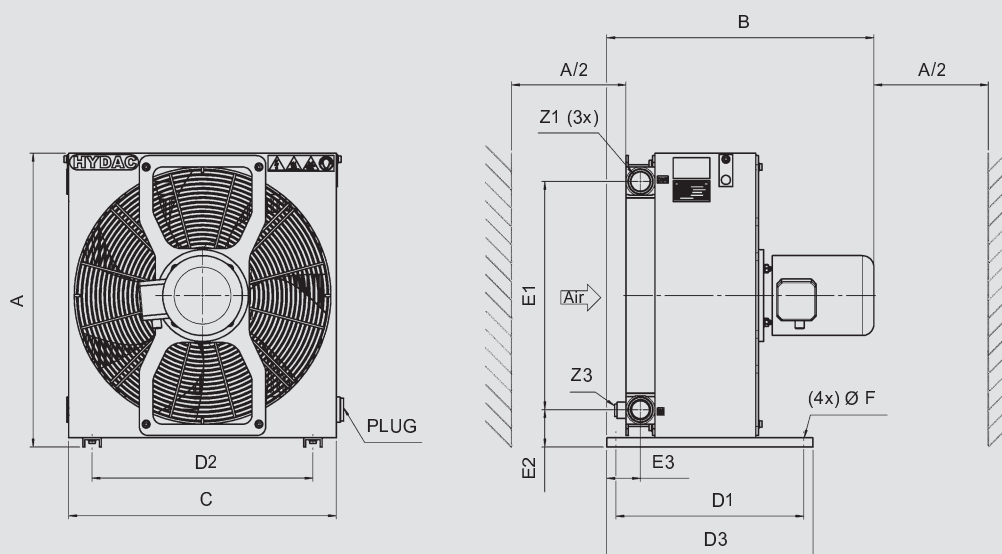
For all possible accessories, like vibration absorber, air filter grid or air filter mat please refer to brochure "Accessories for air coolers".

Dimensions

AC-LN 1

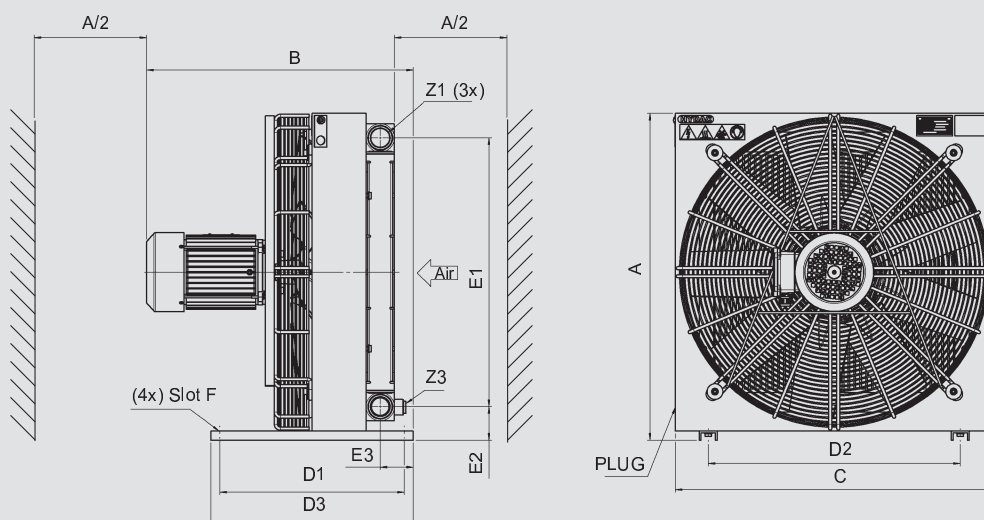


AC-LN 2-6



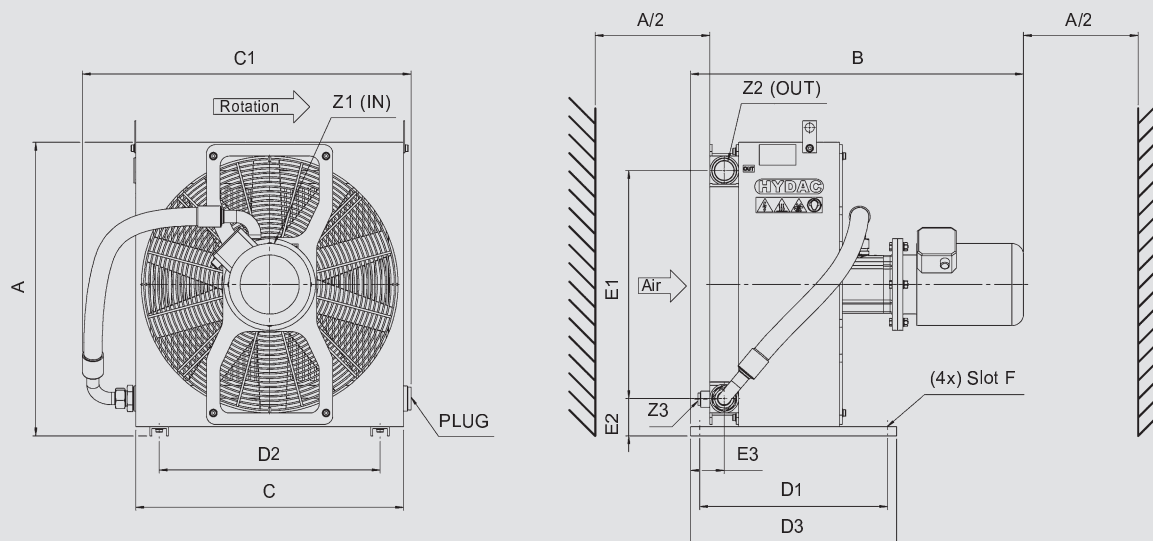
	A ±10	B ±25	C ±10	D1 ±2	D2 ±2	D3 ±2	E1 ±5	E2 ±5	E3 ±5	F Ø Slot	Z1	Z3
AC-LN1H	355	143	200	255	150	295	288	41	88	9	G3/4"	-
AC-LN2H	355	401	330	255	160	295	289	41	58	9	G3/4"	-
AC-LN2S	355	396	330	255	160	295	289	41	58	9	G3/4"	-
AC-LN3H	455	438	380	255	290	295	388	41	58	9	G3/4"	-
AC-LN3S	455	404	380	255	290	295	388	41	58	9	G3/4"	-
AC-LN4L	520	517	485	410	425	450	439	51	104	9x20	G1"	-
AC-LN4S	520	517	485	410	425	450	439	51	104	9x20	G1"	-
AC-LN5L	562	547	542	410	482	450	439	72	94	9x20	G1"	-
AC-LN5S	562	563	542	410	482	450	439	72	94	9x20	G1"	-
AC-LN6L	640	567	584	410	482	450	497	82	74	9x20	G1 1/4"	M22x1.5
AC-LN6S	640	583	584	410	482	450	497	82	74	9x20	G1 1/4"	M22x1.5

AC-LN 7



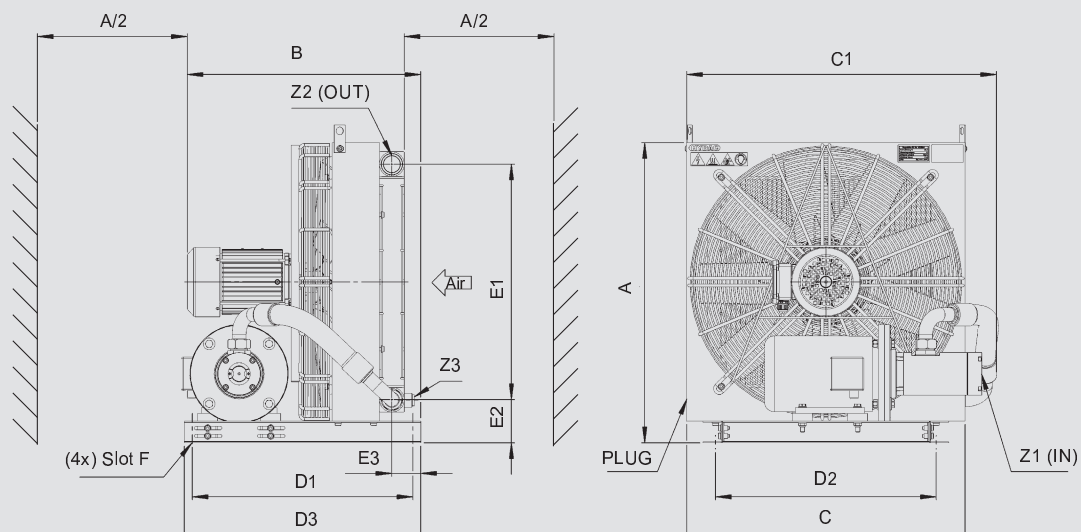
	A ±10	B ±25	C ±10	D1 ±2	D2 ±2	D3 ±2	E1 ±5	E2 ±5	E3 ±5	F Ø Slot	Z1	Z3
AC-LN7L	726	593	706	410	560	450	597	75	74	9x20	G1 1/4"	M22x1.5
AC-LN7S	726	613	706	410	560	450	597	75	74	9x20	G1 1/4"	M22x1.5

ACA-LN 2-6



	A ±10	B ±30	C ±10	C1 ±25	D1 ±2	D2 ±2	D3 ±2	E1 ±5	E2 ±5	E3 ±5	F Ø Slot	Z1 (IN)	Z2 (3x)	Z3
ACA-LN2S	355	567	330	414	370	160	410	289	41	58	9	G 1"	G 3/4"	-
ACA-LN2H	355	596	330	414	370	160	410	289	41	58	9	G 1"	G 3/4"	-
ACA-LN3S	455	620	380	462	370	290	410	388	41	58	9	G 1"	G 3/4"	-
ACA-LN3H	455	620	380	462	370	290	410	388	41	58	9	G 1"	G 3/4"	-
ACA-LN4L	520	697	485	574	410	425	450	439	51	104	9x20	G1 1/4"	G1"	-
ACA-LN4S	520	699	485	574	410	425	450	439	51	104	9x20	G1 1/4"	G1"	-
ACA-LN5L	562	707	542	641	410	482	450	439	71.5	94	9x20	G1 1/4"	G1"	-
ACA-LN5S	562	709	542	641	410	482	450	439	71.5	94	9x20	G1 1/4"	G1"	-
ACA-LN6L	640	727	584	717	410	482	450	497	81.5	74	9x20	G1 1/4"	G1 1/4"	M22x1.5
ACA-LN6S	640	729	584	717	410	482	450	497	81.5	74	9x20	G1 1/4"	G1 1/4"	M22x1.5

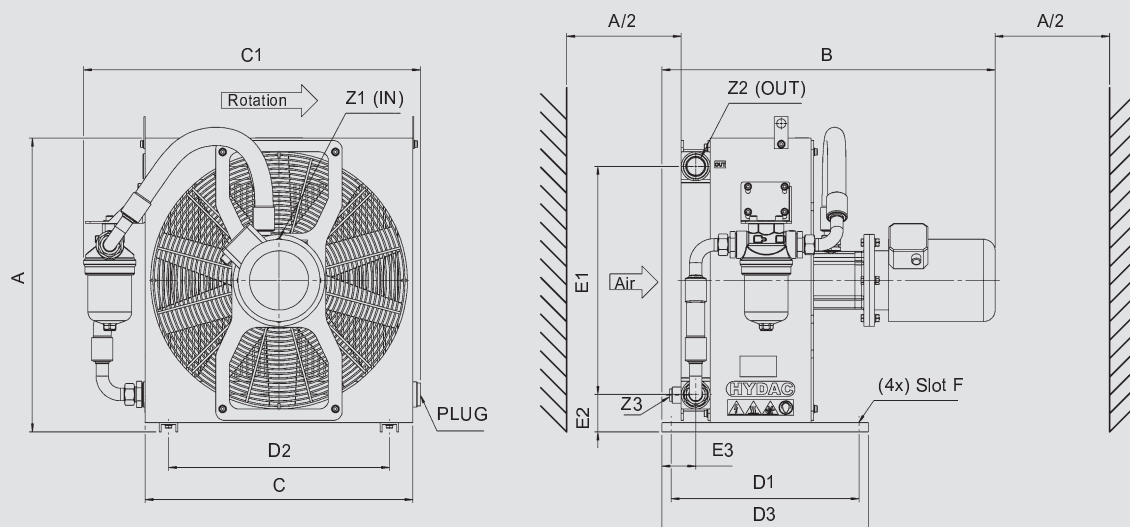
ACA-LN 7



	A ±10	B ±30	C ±10	C1 ±25	D1 ±2	D2 ±2	D3 ±2	E1 ±5	E2 ±5	E3 ±5	F Ø Slot	Z1 (IN)	Z2 (3x)	Z3
ACA-LN7L	736	593	706	775	560 ¹⁾	560	600 ¹⁾	600	83	74	9x20	G 2"	G1 1/4"	M22x1.5
ACA-LN7S	736	607	706	775	560 ¹⁾	560	600 ¹⁾	600	83	74	9x20	G 2"	G1 1/4"	M22x1.5

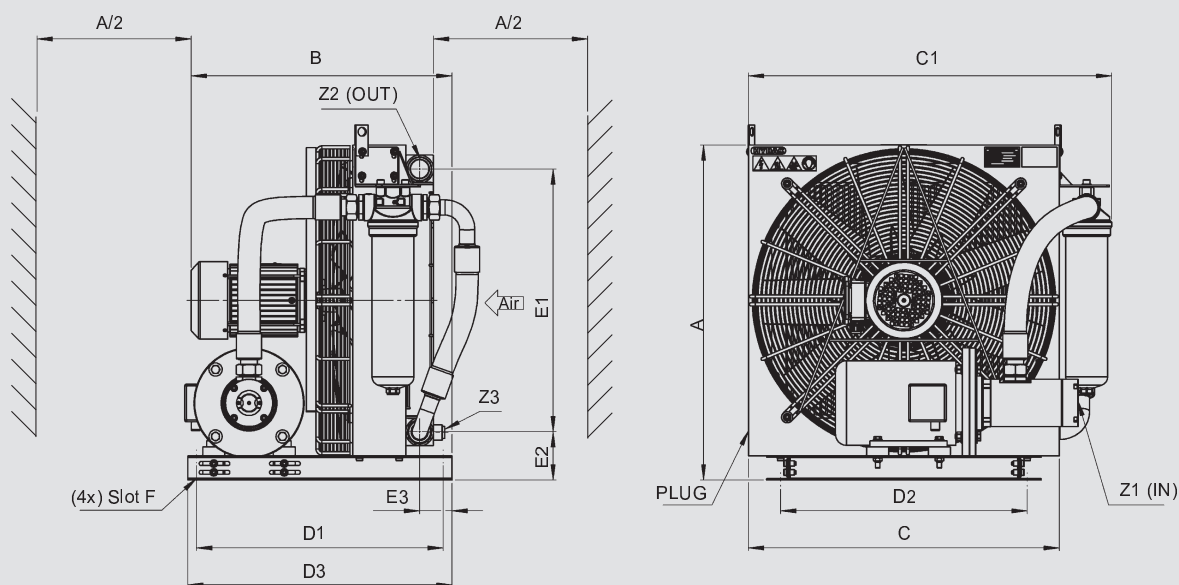
¹⁾ Version with pump displacement 69 [cm³/U]: D1 = 830, D3 = 870

ACAF-LN 2-6



	A ±10	B ±30	C ±10	C1 ±25	D1 ±2	D2 ±2	D3 ±2	E1 ±5	E2 ±5	E3 ±5	F Ø Slot	Z1 (IN)	Z2 (3x)	Z3
ACAF-LN2S	355	567	330	467	370	160	410	289	41	58	9	G 1"	G 3/4"	-
ACAF-LN2H	355	596	330	467	370	160	410	289	41	58	9	G 1"	G 3/4"	-
ACAF-LN3S	455	620	380	517	370	290	410	388	41	58	9	G 1"	G 3/4"	-
ACAF-LN3H	455	596	380	517	370	290	410	388	41	58	9	G 1"	G 3/4"	-
ACAF-LN4L	520	697	485	619	410	425	450	439	51	104	9x20	G1 1/4"	G1"	-
ACAF-LN4S	520	699	485	619	410	425	450	439	51	104	9x20	G1 1/4"	G1"	-
ACAF-LN5L	562	707	542	676	410	482	450	439	71.5	94	9x20	G1 1/4"	G1"	-
ACAF-LN5S	562	709	542	676	410	482	450	439	71.5	94	9x20	G1 1/4"	G1"	-
ACAF-LN6L	640	727	584	734	410	482	450	497	81.5	74	9x20	G1 1/4"	G1 1/4"	M22x1.5
ACAF-LN6S	640	729	584	734	410	482	450	497	81.5	74	9x20	G1 1/4"	G1 1/4"	M22x1.5

ACAF-LN 7



	A ±10	B ±30	C ±10	C1 ±25	D1 ±2	D2 ±2	D3 ±2	E1 ±5	E2 ±5	E3 ±5	F Ø Slot	Z1 (IN)	Z2 (3x)	Z3
ACAF-LN7L	736	593	706	775	560 ¹⁾	560	600 ¹⁾	600	83	74	9x20	G 2"	G1 1/4"	M22x1.5
ACAF-LN7S	736	607	706	775	560 ¹⁾	560	600 ¹⁾	600	83	74	9x20	G 2"	G1 1/4"	M22x1.5

¹⁾ Version with pump displacement 69 [cm³/U]: D1 = 830, D3 = 870

Note:

We recommend maintaining a minimum distance to ensure an unimpeded air inlet and air outlet. This is half the height of the cooling element (A/2). Anything below the minimum distance can influence the cooling capacity and the noise emissions.

Note

The information in this brochure relates to the operating conditions and applications described.
For applications and operating conditions not described, please contact the relevant technical department.
Subject to technical modifications.



HYDAC COOLING GMBH

INTERNATIONAL

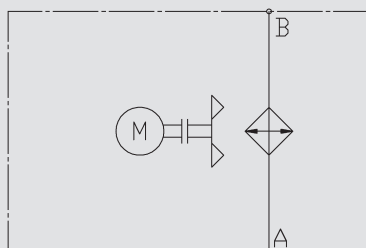
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Symbol



General

The AC-LN 8-14 air cooler series can be used in all areas where either oil or water-glycol is to be cooled with air. The coolers with an axial fan can be used in the return line as well as in the bypass flow.

The wide range of accessories and optional versions mean that the coolers can be adapted flexibly to various applications.

Product Features

The air flow of the cooler has been optimized by the use of a more efficient axial fan and a variety of housing modifications. As a result, the AC-LN series 8-14 is especially efficient and quiet.

The cooler can also be used in the bypass flow by attaching a boost pump. An additional filter enables continuous filtration of the medium; the cooler can then be connected as required.

- Large product range
- Large cooling performance range
- Modular design

Air Cooler Industry

AC-LN 8-14 / ACA-LN 8-11 / ACAF-LN 8-11

Operation Data

Fluids	Oils (mineral oils, synthetic oils, high viscosity oils, biological oils, phosphate ester) Water-glycol (cooling fluid) HFC pressure fluids
Viscosity	AC-LN: 2.000 mm ² /s (standard) ACA-LN/ACAF-LN: see technical data
Temperature range	Minimum / maximum ambient temperature: -20 °C to +40 °C (standard) Maximum temperature of the medium: +130 °C Please contact the technical sales department in the event of deviating temperatures. Notice! Fan switching frequency at max. fan speed (max. volume of air) must be avoided when operating a cooler at which the temperature difference between the medium inlet at the cooler and the ambient temperature can be greater than 50°C. Quick changes in the temperature of the cooling element material can lead to a significant reduction in service life or to direct damage of the cooling element due to thermal shock. Please contact the technical sales department to receive information about controlled fan drives.
Pressure resistance of the cooling element	Dynamic operating pressure: 16 bar Static operating pressure: 21 bar
Fan	Axial fan in suction version (standard) Axial fan in blowing version on request (note: with blowing version approx. 10 % less cooling capacity)
Motor	Three-phase motor Efficiency class IE2 Protection class IP55 Insulation class F Other versions on request
ErP	The fan unit of the AC-LN corresponds to the minimum efficiency levels specified in the Ecodesign directive or ErP directive (Energy-related Products) 2009/125/EC.
Pump (only ACA-LN/ACAF-LN)	Screw pump with separate motor Pump motor speed: 3,000 rpm Negative suction pressure of the pump: max. -0.4 bar
Noise levels	See technical data AC-LN and ACA-LN/ACAF-LN The noise levels are only reference values as the acoustic properties of a room, connections and reflection have an effect on the noise level.
Accessories	Integrated pressure bypass valve (IBP) or integrated thermal pressure bypass valve (IBT) (cannot be retrofitted, also see options) Thermostats Air filter grid or air filter mat Vibration damper

Application Field

Systems with high cooling requirements, such as:

- Hydraulic systems
- Lubrication systems
- Gears
- Motors
- Generators
- Converters
- Machine tools

Options

Integrated pressure bypass valve (IBP) / Integrated thermal pressure bypass valve (IBT)

The bypass channel is integrated in the cooling element. If a particular pressure is exceeded, the IBP opens the bypass channel, thereby protecting the cooling element from too high a pressure. Furthermore, the IBT only opens the cooling element path once a particular temperature has been reached.

Large coolers

Coolers with a higher cooling capacity than standard are also available as special versions.

Speed control: AC-LN MI

The integrated frequency converter enables stepless speed control dependent on the oil temperature in the cooling element.

ATEX

The AC-LN (without pump and filter) is also available for operation in gas and dust explosive areas. The ATEX certification applies for a frequency of 50 Hz and 60 Hz.

Marine

The MAR version is for aggressive ambient conditions, such as industrial atmospheres, high humidity or high salt content, which place great demands on the corrosion resistance and robustness of the materials used.

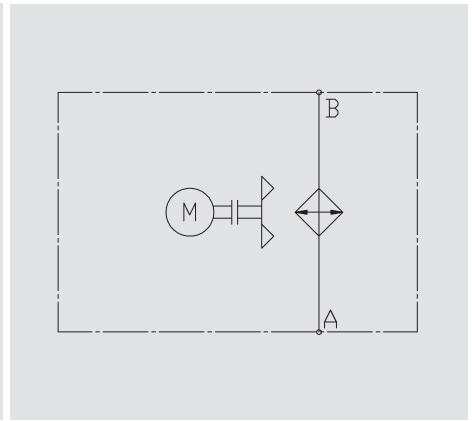
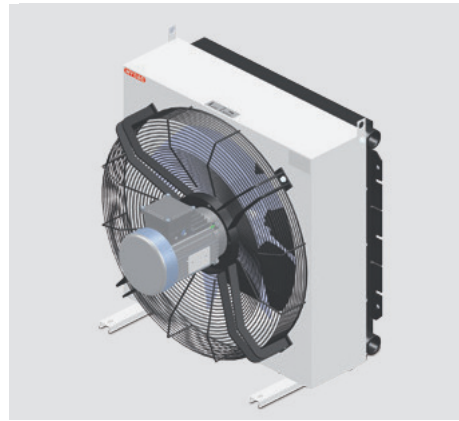
Cold Climate / Hot Climate

Use in extreme ambient conditions:
Cold Climate to -40 °C,
Hot Climate to +60 °C

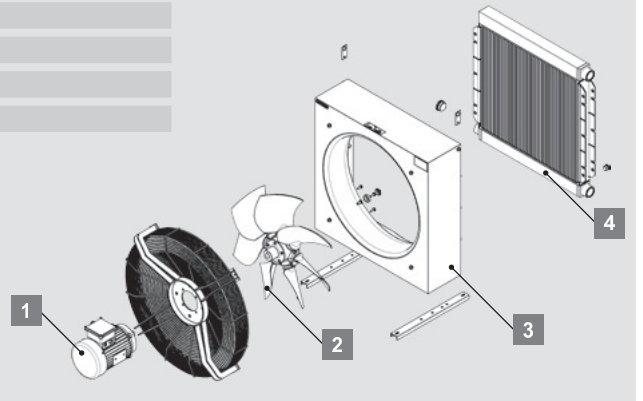
The various versions can also be combined. Our technical sales department will be happy to assist you further.

Design

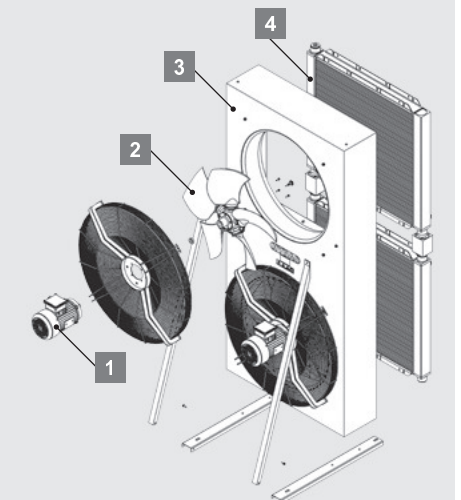
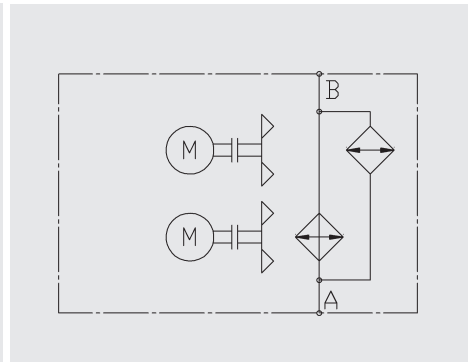
AC-LN 8-9-10-11



- | | |
|---|----------------|
| 1 | Motor |
| 2 | Axial fan |
| 3 | Fan housing |
| 4 | Heat exchanger |



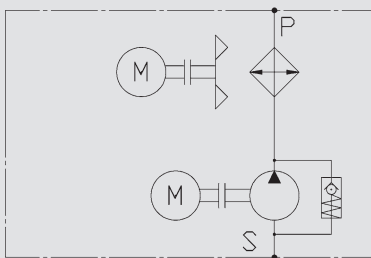
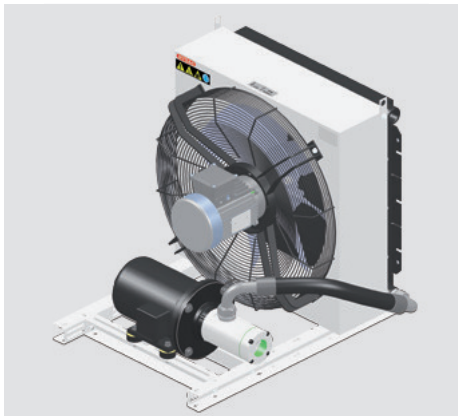
AC-LN 12-14



- | | |
|---|----------------|
| 1 | Motor |
| 2 | Axial fan |
| 3 | Fan housing |
| 4 | Heat exchanger |

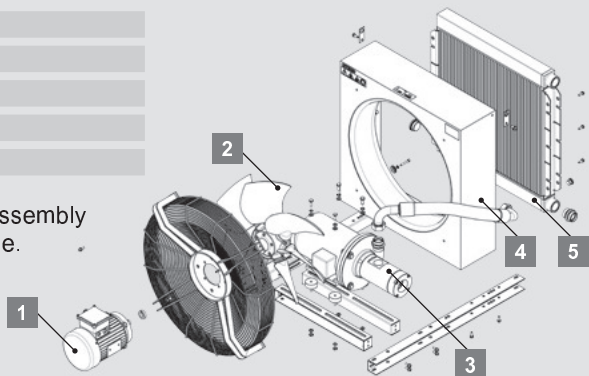
Design

ACA-LN8-9-10-11

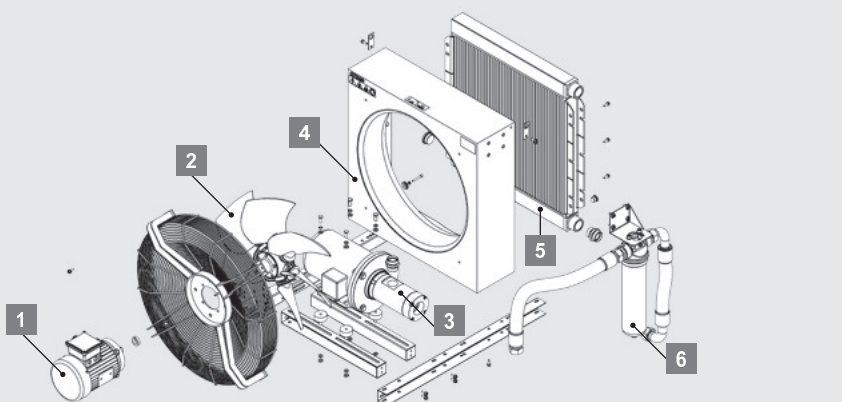
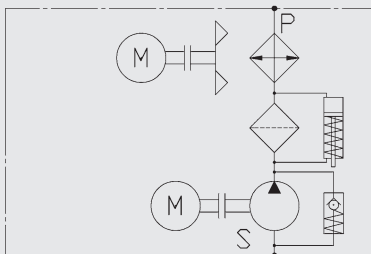


- 1 Drive motor
- 2 Axial fan
- 3 Low-noise screw pump
- 4 Fan housing
- 5 Heat exchanger

With external motor-pump assembly attached onto the base frame.



ACAF-LN8-9-10-11



- 1 Drive motor
- 2 Axial fan
- 3 Low-noise screw pump
- 4 Fan housing
- 5 Heat exchanger
- 6 Filter

With external motor-pump assembly attached onto the base frame.

The filter is equipped with a visual clogging indicator as standard.

Technical Data

AC-LN

Type of cooler	P/N	Fluid [-] ¹⁾	Fluid flow [l/min] ²⁾	Air flow [m³/h]	Fan motor: Poles / size / flange	Fan motor: Power / current absorption [kW / A] ³⁾	Noise level (at 1 m distance, 50 Hz) [dB(A)]	Volume [l] ⁴⁾	Weight [kg] ⁵⁾
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VERSION B: 50 Hz

AC-LN8L	3686293	F	350	5,800	6/90/B14	0.75 / 2.0	68	6	72
AC-LN8S	3686305	F	350	8,700	4/90/B14	1.5 / 3.3	79	6	72
AC-LN9L	3686306	F	350	7,500	6/90/B14	0.75 / 2.0	67	11	100
AC-LN9S	3770160	F	350	10,900	4/90/B14	1.5 / 3.3	80	11	100
AC-LN10L	3686307	F	540	11,300	6/90/B14	1.1 / 2.65	71	14	129
AC-LN10S	3773324	F	540	16,500	4/100/B14	3.0 / 6.0	77	14	129
AC-LN11L	3686308	F	540	17,400	6/112/B14	2.2 / 4.6	75	18	170
AC-LN11S	3773334	F	540	23,600	4/112/B14	4.0 / 7.7	81	18	170
AC-LN12L	3704261	F	840	22,600	6/90/B14	1.1 / 2.65	74	28	290
AC-LN12S	3773864	F	840	33,000	4/100/B14	3.0 / 6.0	80	28	290
AC-LN14L	3704260	F	840	34,800	6/112/B14	2.2 / 4.6	78	35	320
AC-LN14S	3773890	F	840	47,200	4/112/B14	4.0 / 7.7	84	35	320

VERSION C: 60 Hz

AC-LN8L	3763003	F	350	6,150	6/90/B14	0.9 / 2.0	71	6	72
AC-LN8S	3763036	F	350	8,700	4/90/B14	1.8 / 3.3	83	6	72
AC-LN9L	3763004	F	350	7,500	6/90/B14	0.9 / 2.0	70	11	100
AC-LN9S	3772994	F	350	10,900	4/90/B14	1.8 / 3.3	83	11	100
AC-LN10L	3733086	F	540	12,000	6/90/B14	1.3 / 2.7	74	14	129
AC-LN10S	3774291	F	540	16,400	4/100/B14	3.6 / 7.2	80	14	129
AC-LN11L	3763035	F	540	18,300	6/112/B14	2.6 / 4.6	78	18	170
AC-LN11S	3774293	F	540	23,600	4/112/B14	4.8 / 8.0	84	18	170
AC-LN12L	3765763	F	840	24,000	6/90/B14	1.3 / 2.7	77	28	290
AC-LN12S	3774304	F	840	32,800	4/100/B14	3.6 / 7.2	83	28	290
AC-LN14L	3765740	F	840	36,600	6/112/B14	2.6 / 4.6	81	35	320
AC-LN14S	3774312	F	840	47,200	4/112/B14	4.8 / 8.0	87	35	320

¹⁾ Medium: F = mineral oil or water-glycol, M = mineral oil

²⁾ Max. flow rate

³⁾ Current requirement: B version at 400 V – 50 Hz / C version at 480 V – 60 Hz, AC-LN 12-14: each motor

⁴⁾ Fluid in cooling element

⁵⁾ Unfilled

Technical Data

ACA-LN / ACAF-LN

Type of cooler	Fluid [-] ¹⁾	Fluid flow [l/min]	Air flow [m³/h]	Pump displacement [cm³/U]	Max. viscosity [mm²/s] continuous working ²⁾	Pump motor: power / current absorption [kW/A] ³⁾		Fan motor: Poles / size / flange	Fan motor: power / current absorption [kW / A] ³⁾	Filter size [-]	Noise level (at 1 m distance, 50 Hz) [dB(A)]	Volume [l] ⁴⁾	Weight [kg] ⁵⁾
						40/58	69						

VERSION B: 50 Hz

ACA-LN8L	M	100/150/180	5,800	40/58/69	320/130/240	3.0 / 6.7	5.5 / 10.4	6/90/B14	0.75 / 2.0	-	68	6	102
ACA-LN8S	M	100/150/180	8,700	40/58/69	320/130/240	3.0 / 6.7	5.5 / 10.4	4/90/B14	1.5 / 3.3	-	79	6	102
ACAF-LN8L	M	100/150/180	5,800	40/58/69	320/130/240	3.0 / 6.7	5.5 / 10.4	6/90/B14	0.75 / 2.0	LPF280	68	6	110
ACAF-LN8S	M	100/150/180	8,700	40/58/69	320/130/240	3.0 / 6.7	5.5 / 10.4	4/90/B14	1.5 / 3.3	LPF280	79	6	110
ACA-LN9L	M	100/150/180	7,500	40/58/69	320/130/240	3.0 / 6.7	5.5 / 10.4	6/90/B14	0.75 / 2.0	-	67	11	132
ACA-LN9S	M	100/150/180	10,900	40/58/69	320/130/240	3.0 / 6.7	5.5 / 10.4	4/90/B14	1.5 / 3.3	-	80	11	132
ACAF-LN9L	M	100/150/180	7,500	40/58/69	320/130/240	3.0 / 6.7	5.5 / 10.4	6/90/B14	0.75 / 2.0	LPF280	67	11	140
ACAF-LN9S	M	100/150/180	10,900	40/58/69	320/130/240	3.0 / 6.7	5.5 / 10.4	4/90/B14	1.5 / 3.3	LPF280	80	11	140
ACA-LN10L	M	100/150/180	11,300	40/58/69	320/130/240	3.0 / 6.7	5.5 / 10.4	6/90/B14	1.1 / 2.65	-	71	14	172
ACA-LN10S	M	100/150/180	16,500	40/58/69	320/130/240	3.0 / 6.7	5.5 / 10.4	4/100/B14	3.0 / 6.0	-	77	14	172
ACAF-LN10L	M	100/150/180	11,300	40/58/69	320/130/240	3.0 / 6.7	5.5 / 10.4	6/90/B14	1.1 / 2.65	LPF280	71	14	180
ACAF-LN10S	M	100/150/180	16,500	40/58/69	320/130/240	3.0 / 6.7	5.5 / 10.4	4/100/B14	3.0 / 6.0	LPF280	77	14	180
ACA-LN11L	M	100/150/180	17,400	40/58/69	320/130/240	3.0 / 6.7	5.5 / 10.4	6/112/B14	2.2 / 4.6	-	75	18	212
ACA-LN11S	M	100/150/180	23,600	40/58/69	320/130/240	3.0 / 6.7	5.5 / 10.4	4/112/B14	4.0 / 7.7	-	81	18	212
ACAF-LN11L	M	100/150/180	17,400	40/58/69	320/130/240	3.0 / 6.7	5.5 / 10.4	6/112/B14	2.2 / 4.6	LPF280	75	18	220
ACAF-LN11S	M	100/150/180	23,600	40/58/69	320/130/240	3.0 / 6.7	5.5 / 10.4	4/112/B14	4.0 / 7.7	LPF280	81	18	220

VERSION C: 60 Hz

ACA-LN8L	M	120/180/215	6,150	40/58/69	320/130/240	3.0 / 6.7	5.5 / 10.4	6/90/B14	0.9 / 2.0	-	71	6	102
ACA-LN8S	M	120/180/215	8,700	40/58/69	320/130/240	3.0 / 6.7	5.5 / 10.4	4/90/B14	1.8 / 3.3	-	83	6	102
ACAF-LN8L	M	120/180/215	6,150	40/58/69	320/130/240	3.0 / 6.7	5.5 / 10.4	6/90/B14	0.9 / 2.0	LPF280	71	6	110
ACAF-LN8S	M	120/180/215	8,700	40/58/69	320/130/240	3.0 / 6.7	5.5 / 10.4	4/90/B14	1.8 / 3.3	LPF280	83	6	110
ACA-LN9L	M	120/180/215	7,500	40/58/69	320/130/240	3.0 / 6.7	5.5 / 10.4	6/90/B14	0.9 / 2.0	-	70	11	132
ACA-LN9S	M	120/180/215	10,900	40/58/69	320/130/240	3.0 / 6.7	5.5 / 10.4	4/90/B14	1.8 / 3.3	-	83	11	132
ACAF-LN9L	M	120/180/215	7,500	40/58/69	320/130/240	3.0 / 6.7	5.5 / 10.4	6/90/B14	0.9 / 2.0	LPF280	70	11	140
ACAF-LN9S	M	120/180/215	10,900	40/58/69	320/130/240	3.0 / 6.7	5.5 / 10.4	4/90/B14	1.8 / 3.3	LPF280	83	11	140
ACA-LN10L	M	120/180/215	12,000	40/58/69	320/130/240	3.0 / 6.7	5.5 / 10.4	6/90/B14	1.3 / 2.7	-	74	14	172
ACA-LN10S	M	120/180/215	16,400	40/58/69	320/130/240	3.0 / 6.7	5.5 / 10.4	4/100/B14	3.6 / 7.2	-	80	14	172
ACAF-LN10L	M	120/180/215	12,000	40/58/69	320/130/240	3.0 / 6.7	5.5 / 10.4	6/90/B14	1.3 / 2.7	LPF280	74	14	180
ACAF-LN10S	M	120/180/215	16,400	40/58/69	320/130/240	3.0 / 6.7	5.5 / 10.4	4/100/B14	3.6 / 7.2	LPF280	80	14	180
ACA-LN11L	M	120/180/215	18,300	40/58/69	320/130/240	3.0 / 6.7	5.5 / 10.4	6/112/B14	2.6 / 4.6	-	78	18	212
ACA-LN11S	M	120/180/215	23,600	40/58/69	320/130/240	3.0 / 6.7	5.5 / 10.4	4/112/B14	4.8 / 8.0	-	84	18	212
ACAF-LN11L	M	120/180/215	18,300	40/58/69	320/130/240	3.0 / 6.7	5.5 / 10.4	6/112/B14	2.6 / 4.6	LPF280	78	18	220
ACAF-LN11S	M	120/180/215	23,600	40/58/69	320/130/240	3.0 / 6.7	5.5 / 10.4	4/112/B14	4.8 / 8.0	LPF280	84	18	220

¹⁾ Medium: F = mineral oil or water-glycol, M = mineral oil

²⁾ Depends on pump displacement

³⁾ Current requirement: B version at 400 V – 50 Hz / C version at 480 V – 60 Hz

⁴⁾ Fluid in cooling element

⁵⁾ Unfilled

Cooling in bypass flow: ACA-LN / ACAF-LN

The ACA-LN with integrated boost pump is a complete bypass flow cooling system; the ACAF-LN is equipped with a high-quality HYDAC filter for additional filtration.

Advantages:

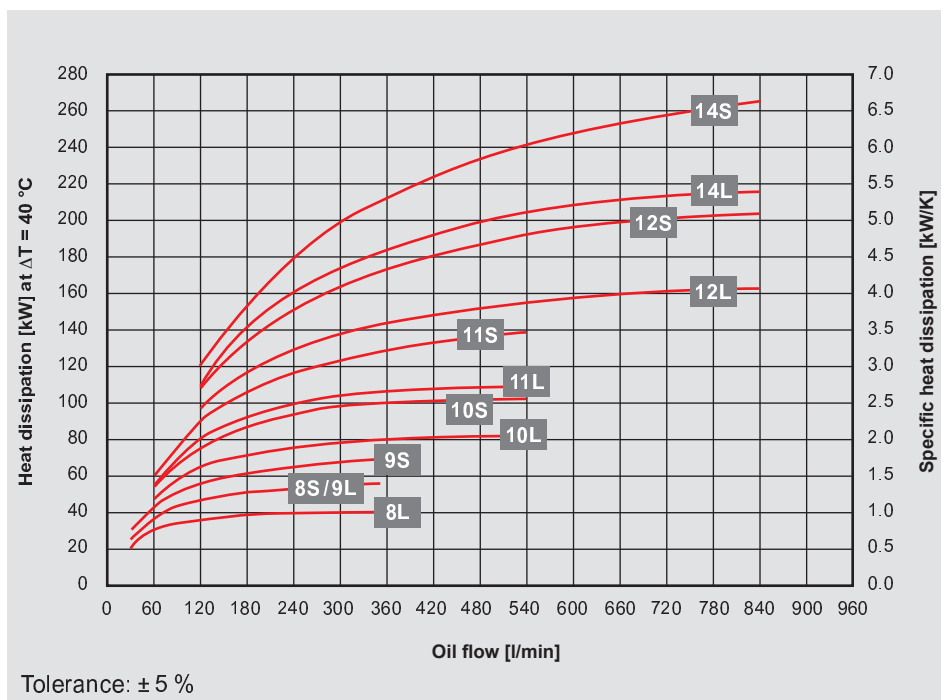
- Stable cooling and filtration (independent of the cycle times of the system)
- Continuous filtration is possible, cooling as required
- Avoidance of pressure surges in the cooling element
- Design of the cooler is in accordance with the cooling capacity required (not according to the maximum possible return flow volume)

Cooling Capacity and Pressure Difference Δp

Mineral oil

AC-LN / ACA-LN / ACAF-LN

50 Hz / 60 Hz

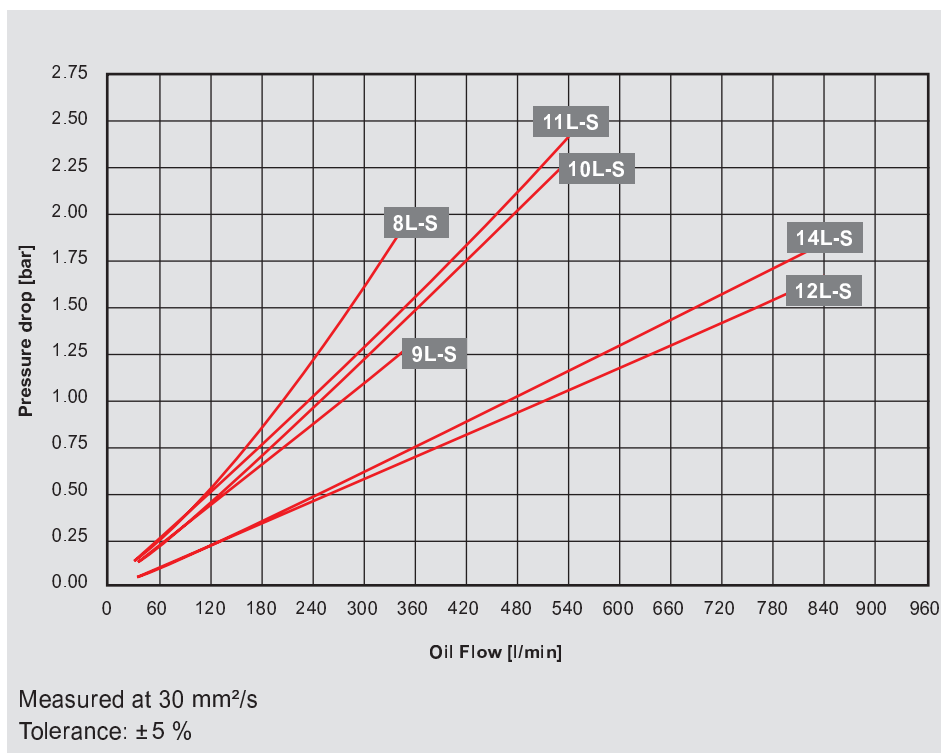


Cooling capacity:

Dependent on the oil flow rate and the temperature difference ΔT between oil inlet and air inlet.

Note:

The values are measured at $\Delta T = 40^\circ\text{C}$. For smaller ΔT values, the values can change. You can also use our cooler calculation software for designing. Please contact our technical sales department.



Pressure difference Δp

For other viscosities, the pressure loss must be multiplied by the conversion factor K:

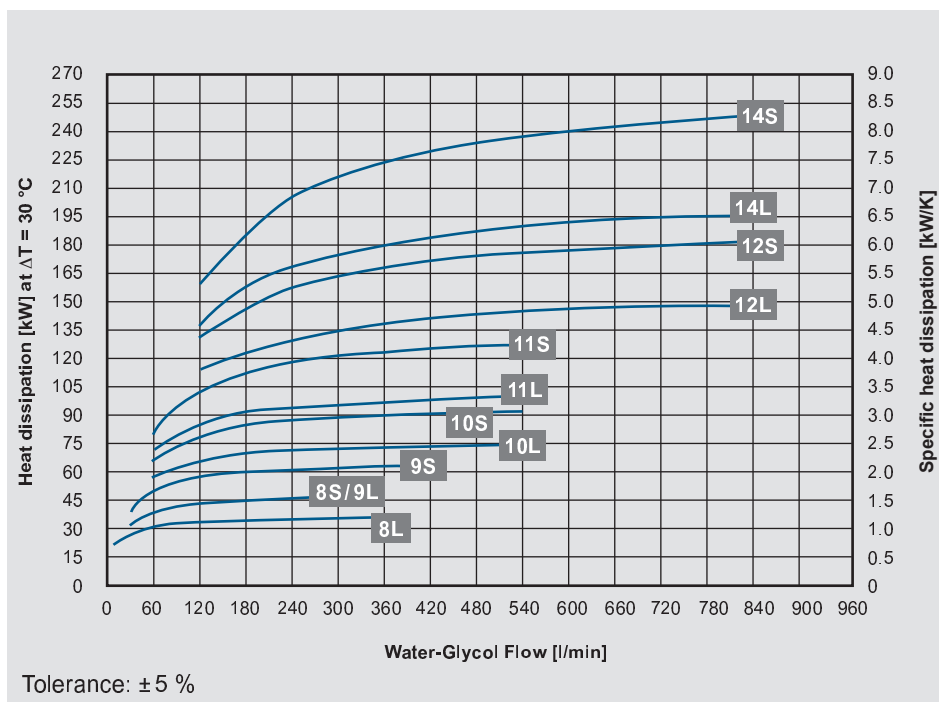
Viscosity (mm^2/s)	10	15	22	30	46	68	100	150
Factor K	0.35	0.5	0.75	1	1.4	1.9	2.5	3.5

Cooling Capacity and Pressure Difference Δp

Water-glycol (60/40)

AC-LN

50 Hz / 60 Hz

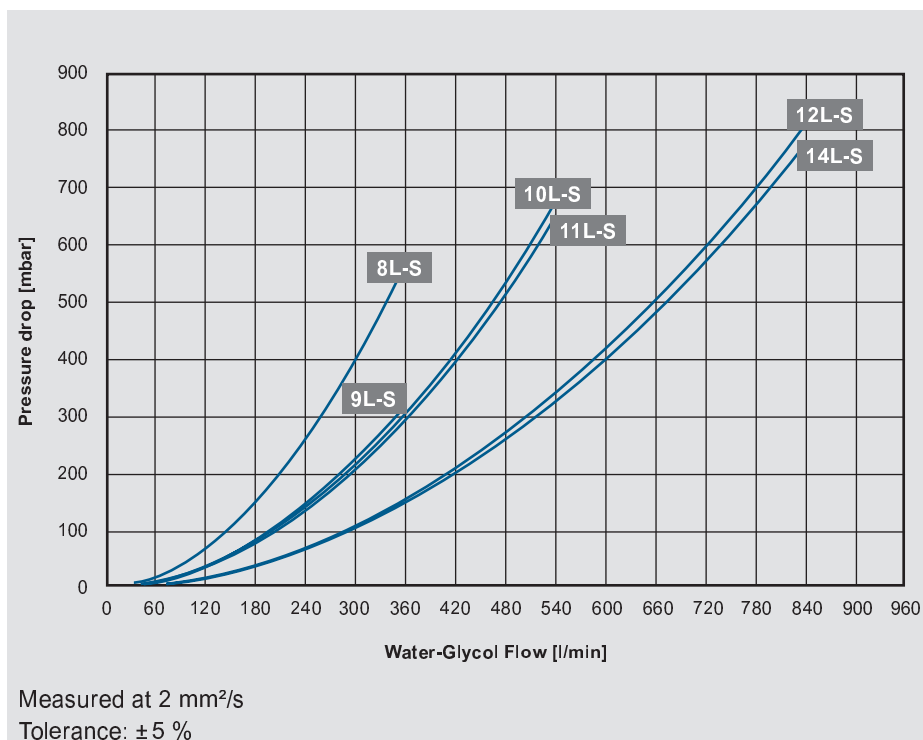


Cooling capacity:

Dependant on the water-glycol flow rate and the temperature difference ΔT between w/g inlet and air inlet.

Note:

The values are measured at $\Delta T = 30^\circ\text{C}$. For smaller ΔT values, the values can change. You can also use our cooler calculation software for designing. Please contact our technical sales department.



Pressure difference Δp

Model Type

ACAF-LN 8S - 40 - 1.0 - B - M - B - LPF280 - 10 - 1 - IBT

Cooler type

- AC-LN = Air cooler (oil / water-glycol mix)
- ACA-LN = Air cooler (oil) with integrated pump
- ACAF-LN = Air cooler (oil) with integrated pump and filter

Size/motor speed

- 8-14 = Size
- L = 6 poles (1,000 rpm)
- S = 4 poles (1,500 rpm)

Displacement cm³/rev

40 / 58 / 69 (only ACA-LN/ACAF-LN 8-11)

Revision

Clogging indicators (only ACAF-LN)

- A = Without clogging indicator
- B = With visual indicator (Standard)
- D = With electrical and optical indicator (24 V)

Fluids

- F = Mineral oil or water glycol mix (AC-LN)
- M = Mineral oil (ACA-LN and ACAF-LN)

Motor voltage

Standard voltages and frequencies for 3 phase motor

- B = 230/400 V – 50 Hz
 - C = 265/460 V – 60 Hz
 - A = Special version 230/400 V – 50 Hz / 265/460 V – 60 Hz
- (tolerance voltage ± 10 %)
- Other voltages on request

Size of filter (only ACAF-LN)

ACAF-LN8-11 = LPF280

Filtration rating in micron (only ACAF-LN)

- 5 = 5 µm Betamicon®-4-N (5 BN4HC)
- 10 = 10 µm Betamicon®-4-N (10 BN4HC) (standard)
- 20 = 20 µm Betamicon®-4-N (20 BN4HC)

Color

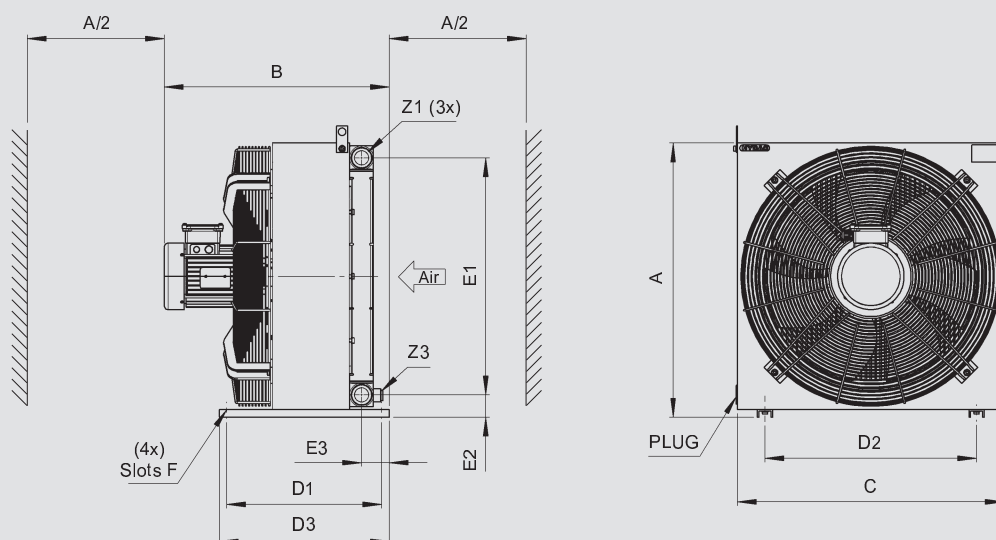
- 1 = RAL 9002 (standard)
- Other colors on request.

Accessories

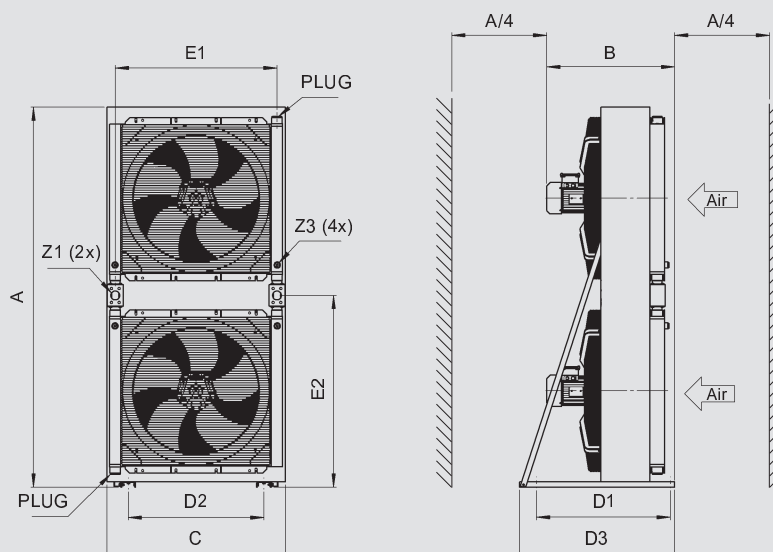
- IBP = Heat exchanger with integrated bypass valve
 - IBT = Heat exchanger with integrated thermo-bypass valve
 - AITF = Thermostat (fixed)
- For all possible accessories, like vibration absorber, air filter grid or air filter mat please refer to brochure Accessories for air coolers.

Dimensions

AC-LN 8-9-10-11



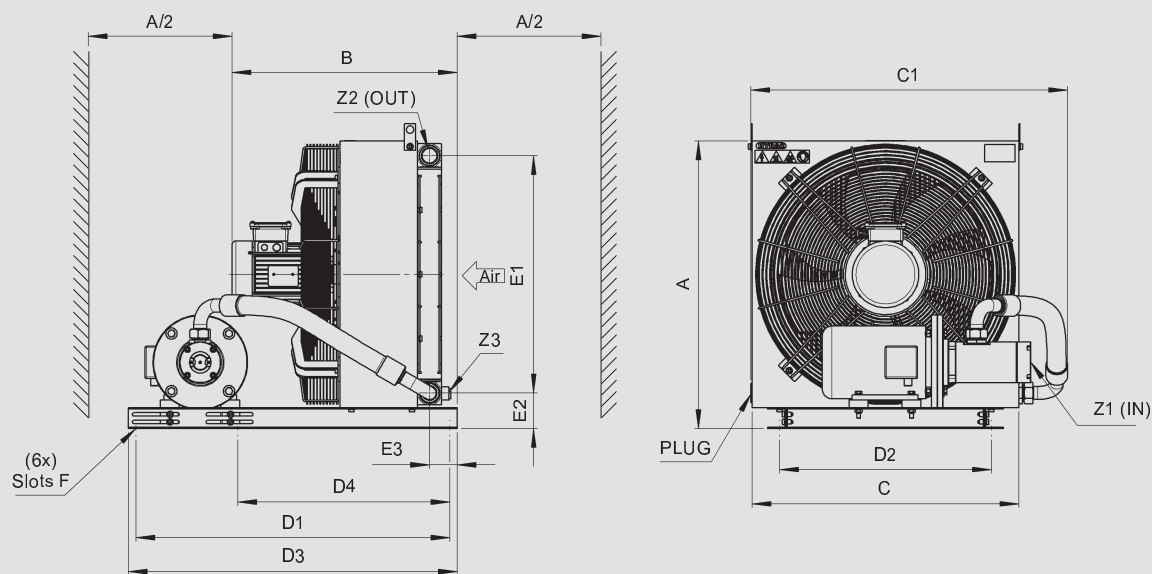
AC-LN 12-14



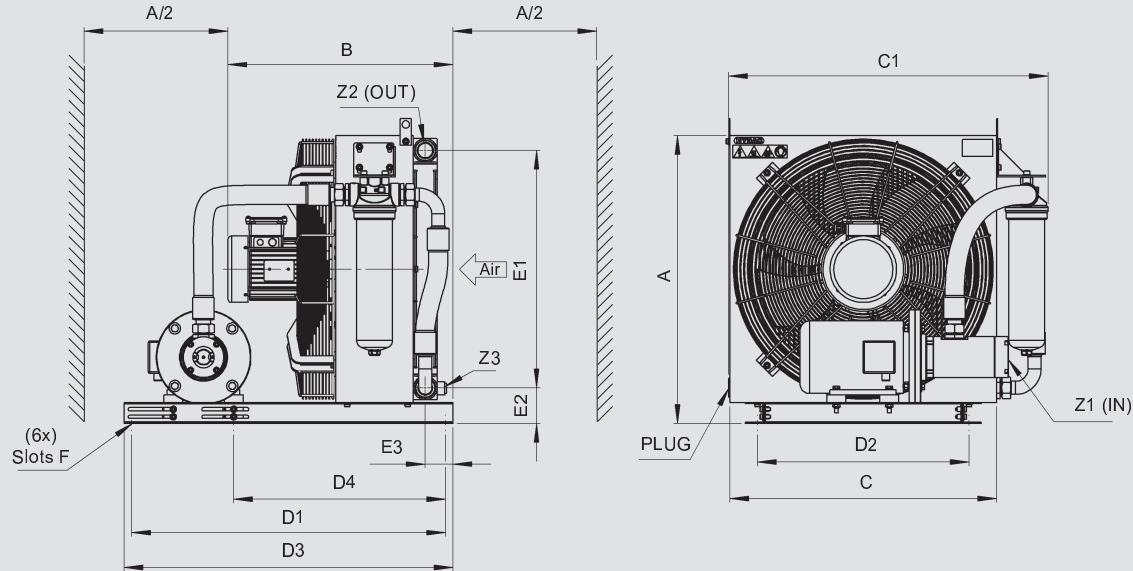
	A ±10	B ±25	C ±10	D1 ±2	D2 ±2	D3 ±2	E1 ±5	E2 ±5	E3 ±5	F ø Slots	Z1	Z3
AC-LN8 L	725	596	705	410	560	450	627	58	74	9x20	G1¼"	M22x1.5
AC-LN8 S	725	626	705	410	560	450	627	58	74	9x20	G1¼"	M22x1.5
AC-LN9 L	880	750	790	750	700	790	757	76.5	148	12	G1½"	M22x1.5
AC-LN9 S	880	780	790	750	700	790	757	76.5	148	12	G1½"	M22x1.5
AC-LN10 L	1,030	766	930	750	700	790	907	76.5	147	12	G1½"	M22x1.5
AC-LN10 S	1,030	787	930	750	700	790	907	76.5	147	12	G1½"	M22x1.5
AC-LN11 L	1,180	811	1,050	750	700	790	1,057	76.5	147	12	G1½"	M22x1.5
AC-LN11 S	1,180	810	1,050	750	700	790	1,057	76.5	147	12	G1½"	M22x1.5
AC-LN12 L	2,130	718	1,000	750	760	870	907	1,075	-	13x30	SAE2"	M22x1.5
AC-LN12 S	2,130	738	1,000	750	760	870	907	1,075	-	13x30	SAE2"	M22x1.5
AC-LN14 L	2,297	763	1,140	750	900	870	1,057	1,166	-	13x30	SAE2"	M22x1.5
AC-LN14 S	2,297	761	1,140	750	900	870	1,057	1,166	-	13x30	SAE2"	M22x1.5

Dimensions

ACA-LN 8-9-10-11



ACAF-LN 8-9-10-11



	A ±10	B ±25	C ±10	C1 ±25	D1 ±2	D2 ±2	D3 ±2	D4 ±2	E1 ±5	E2 ±5	E3 ±5	F ØSlots	Z1 (IN)	Z2 (3x)	Z3
ACA-LN8L	760	596	705	837	830	560	870	560	627	94	74	9x20	G2"	G1 1/4"	M22x1.5
ACA-LN8S	760	626	705	837	830	560	870	560	627	94	74	9x20	G2"	G1 1/4"	M22x1.5
ACA-LN9L	905	730	790	914	830	700	870	560	757	102	128	9x20	G2"	G1 1/2"	M22x1.5
ACA-LN9S	905	760	790	914	830	700	870	560	757	102	128	9x20	G2"	G1 1/2"	M22x1.5
ACA-LN10L	1,055	746	930	1,053	830	700	870	560	907	102	127	9x20	G2"	G1 1/2"	M22x1.5
ACA-LN10S	1,055	767	930	1,053	830	700	870	560	907	102	127	9x20	G2"	G1 1/2"	M22x1.5
ACA-LN11L	1,205	791	1,050	1,164	830	700	870	560	1,057	102	127	9x20	G2"	G1 1/2"	M22x1.5
ACA-LN11S	1,205	790	1,050	1,164	830	700	870	560	1,057	102	127	9x20	G2"	G1 1/2"	M22x1.5
ACAF-LN8L	760	596	705	846	830	560	870	560	627	94	74	9x20	G2"	G1 1/4"	M22x1.5
ACAF-LN8S	760	626	705	846	830	560	870	560	627	94	74	9x20	G2"	G1 1/4"	M22x1.5
ACAF-LN9L	905	730	790	929	830	700	870	560	757	102	128	9x20	G2"	G1 1/2"	M22x1.5
ACAF-LN9S	905	760	790	929	830	700	870	560	757	102	128	9x20	G2"	G1 1/2"	M22x1.5
ACAF-LN10L	1,055	746	930	1,068	830	700	870	560	907	102	127	9x20	G2"	G1 1/2"	M22x1.5
ACAF-LN10S	1,055	767	930	1,068	830	700	780	560	907	102	127	9x20	G2"	G1 1/2"	M22x1.5
ACAF-LN11L	1,205	791	1,050	1,193	830	700	870	560	1,057	102	127	9x20	G2"	G1 1/2"	M22x1.5
ACAF-LN11S	1,205	790	1,050	1,193	830	700	870	560	1,057	102	127	9x20	G2"	G1 1/2"	M22x1.5

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Note:

We recommend maintaining a minimum distance to ensure an unimpeded air inlet and air outlet. For sizes 8-11 this is half the height of the cooling element ($A/2$); for sizes 12-14 it is a quarter of the element height ($A/4$). Anything below the minimum distance can influence the cooling capacity and the noise emissions.

Note

The information in this brochure relates to the operating conditions and applications described.

For applications and operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.



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Air Cooler Industry / Mobile AC-LN / ACA-LN / ACAF-LN / AC-LNH ATEX



Certified to ATEX EU Directives

General

For applications in potentially explosive areas are the air cooler series AC-LN (without pump and filter) and AC-LNH also available with ATEX certification.

In order to prevent serious personal injury and damage to equipment, the highest possible level of safety must be achieved in such potentially explosive locations. Numerous requirements in terms of laws, regulations, directives and standards have been issued worldwide to enhance the level of safety.

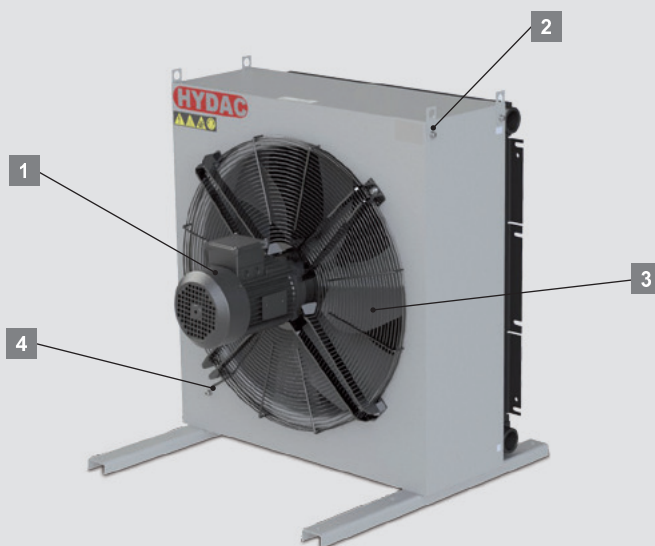
In the context of globalisation, these have been combined, at least in Europe, into harmonised directives for explosion protection.

In the EU, the so-called ATEX directive regulates explosion protection (ATEX is the abbreviation of ATmosphaère Explosible). This directive of the European Parliament and the Council (RL 94/9/EG) which has been in force since 1994 regulates "the alignment of laws of the member states relating to equipment and protection systems specifically for use in potentially explosive locations".

The target group includes amongst others the manufacturers of equipment. Following a revision in July 2003, all new equipment must be realised according to this directive. This directive applies to areas where potentially explosive gases and dust are present and also in mining.

Product Features

Available for operating in potentially explosive areas are air coolers with AC motor (AC-LN, ACA-LN, ACAF-LN) and air coolers with hydraulic motor (AC-LNH). The certification applies for a frequency of 50 Hz and 60 Hz versions.



The components are developed especially for use in potentially explosive areas:

- | | |
|---|---|
| 1 | ATEX certified motor (protected against gas and dust) |
| 2 | Stainless steel screws with special washer earthing |
| 3 | Antistatic fan with plastic fan blades |
| 4 | All components earthed / Cable earthing between motor screw and housing |



Certification



II 2G EX de IIC T4
II 2GD EX de IIC T4

II

Device group:

I = Mining

II = all other explosive areas (non-mining)

2G / 2GD

Category:

2 = present in normal operation

Explosive atmosphere:

G = gas

D = dust

Ex

Explosion protection

de

Type of protection:

de = fireproof with increased safety

IIC

Explosive group for gas:

IIC = most dangerous class (e.g. hydrogen)

T4

Temperature classes:

T4 = 135 °C

Note

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Air Cooler Industry

AC-LN / ACA-LN / ACAF-LN 2-14

Corrosion Protection Levels (CPL)

General

The AC-LN series is also available to work in aggressive environments with high corrosive potential. The design is a result of our research and developments during years of experience.

The protection levels are verified in neutral salt spray tests following EN ISO 9227.

Quality and performance are guaranteed in every condition.

Product Features

Protection Level	Standard	Medium	High
System code	–	CPL1	CPL2
Ambient	C2-H*	C3-H*	C4-H*
Description	Atmosphere with low level of pollution. Places where condensation may occur.	Atmospheres with moderate pollution and humidity. Coastal areas with low salinity.	Industrial areas and coastal areas with moderate salinity.

* Following EN ISO 12944

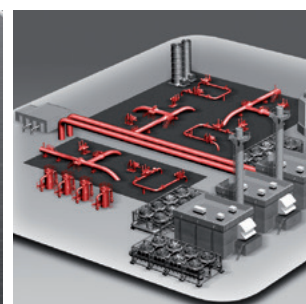
C5-H or configurations according to other standards can be supplied on request. ATEX certification is available on request.

For all other standard air cooler series, corrosion protection levels on request.

Application Field

For all industrial applications, indoor and outdoor applications in an aggressive environment where a high level of corrosion protection is requested. e.g.

- cranes
- harbour
- marine platforms
- ships
- chemical plants
- agricultural sites



Model Type

AC-LN10L - - CPL2

Corrosion Protection Level

n/a = Standard
CPL1 = Medium protection level
CPL2 = High protection level
CPLS = Special protection level

For CPLS version refer to the technical department.

Note

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